Textile Industries

Formerly "COTTON"

a W. R. C. Smith publication

DECEMBER, 1954

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This issue contains your annual index of articles.

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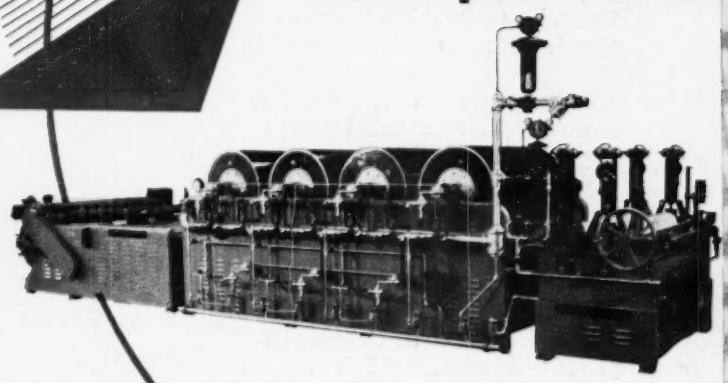

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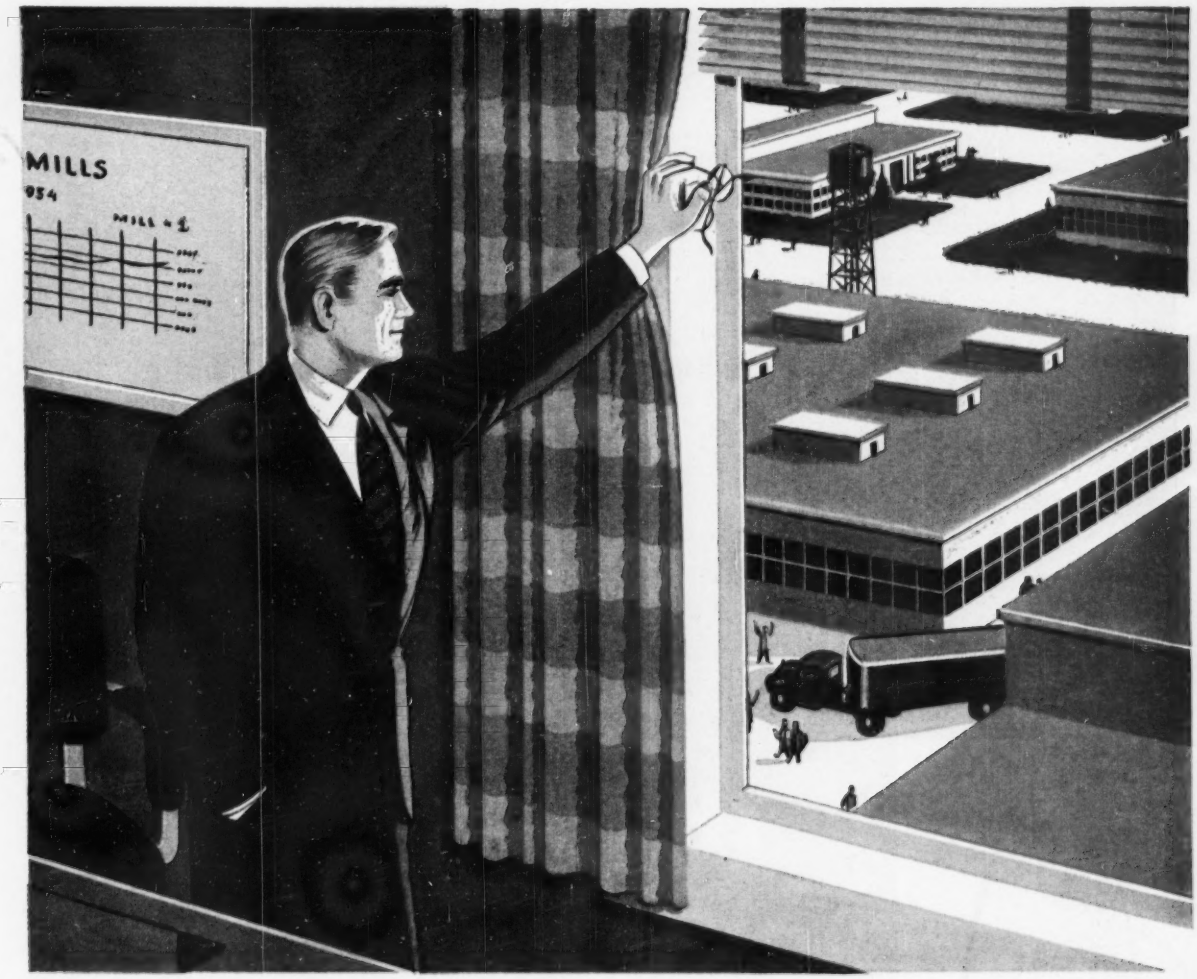

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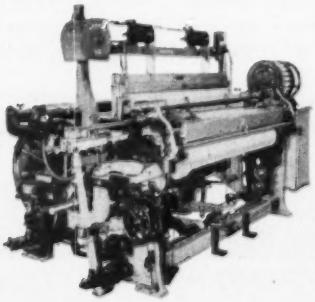

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Textile Industries

Vol. 118, No. 12
December, 1954

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Shorts and Remnants

► One of the bad points of being early in the mails is that Ole S&R must start thinking of the Christmas Season even before the persimmons are good and ripe. Ghosts haven't even crawled out for Halloween as this is written, but it's the last that Ole S&R will see of you before Santa Claus—so he hopes Santa is good to you. In case your kids are at the age where they begin to wonder about the little fat man with the beard crawling down all of those chimneys, you may want to read them the letter of Francis P. Church, an editor of the New York Sun in 1897, in reply to an inquiry from an eight-year-old named Virginia O'Hanlan asking "Is there a Santa Claus?." We quote in part his answer, and we hope you will like it if you haven't read it lately.

"Yes Virginia there is a Santa Claus. He exists as certainly as love and generosity and devotion exist . . . not believe in Santa Claus? You might as well not believe in fairies. You might get your papa to hire men to watch in all of the chimneys on Christmas Eve to catch Santa Claus but even if they did not see Santa Claus coming down what would that prove? Nobody sees Santa Claus but that is no sign there is no Santa Claus. The most real things in the world are those that neither children nor men can see. Did you ever see fairies dancing on the lawn? Of course not, but that's no proof they are not there. Nobody can conceive or imagine all of the wonders that are unseen and unseeable in the world . . . No Santa Claus! Thank God, he lives and lives forever—a thousand years from now—Nay ten times ten thousand years from now — he will continue to make glad the hearts of childhood."

► Speaking of Christmas, are you beating your brains out trying to decide what to give your teen-ager, wife, sweetheart, business associate, or what-have-you? The tiny camera we heard about recently may be the solution to your problem. It's actually smaller than a matchbox and weighs

SO SOFT it can be used on the most valued of possessions – that's a cleaning cloth of non-woven fabric made with CHEMIGUM LATEX. And it stays that way despite washing after washing, use after use. Photo courtesy of Lowndes Products, Inc., Greenville, S. C.

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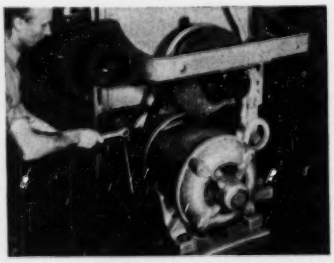

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Shorts and Remnants

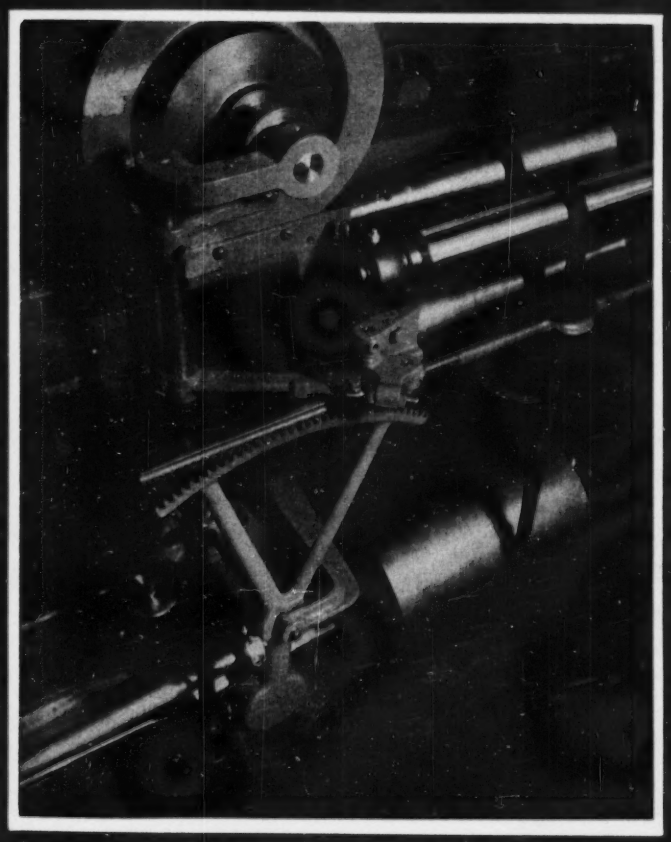
less than ¾ oz. Says the literature accompanying it: "Hide this sensational Spy Camera in the palm of your hand to make secret snaps!" Be careful though what you snap. We're not responsible. Blame it on American Homecraft Co., 3714 N. Milwaukee Ave., Chicago 41, Ill.

► And speaking of Christmas gifts, our gift to all subscribers is the Annual Index for 1954, beginning on page 140A. It contains a listing of all articles that have appeared in TI during 1954, by subject. This is the first time that we have bound the index into the December issue—it was loosely inserted previously. So many of you readers misplaced your copies of the index and later asked for another that we decided to try binding it in. Now let's see you lose the *whole* December 1954 issue of TI. If you still want a copy of the index for handy reference, write to the editors. You are welcome to them so long as the supply lasts.

► Also, the latest Thanksgiving Greetings and thanks to all of you good readers for your help and to all you good advertisers for the space placed in our pages—we wish you all a merry Holiday Season.

► E. N. Brower, of Hope Mills, North Carolina, president of the North Carolina Textile Manufacturers Association, strikes a happy note when he says that business analysts forecast a 70% increase in our textile market in the next two decades—**70%** increase—think of that. Do you remember what we said about the birth rate and the young ones coming on, etc.?

► Hey! That 70% could include us too! Say, boy, call up and order Ole S&R a 1970 Super Jet Buick, a new set of bifocals—gold ones, a set of platinum upper plates, and a ball



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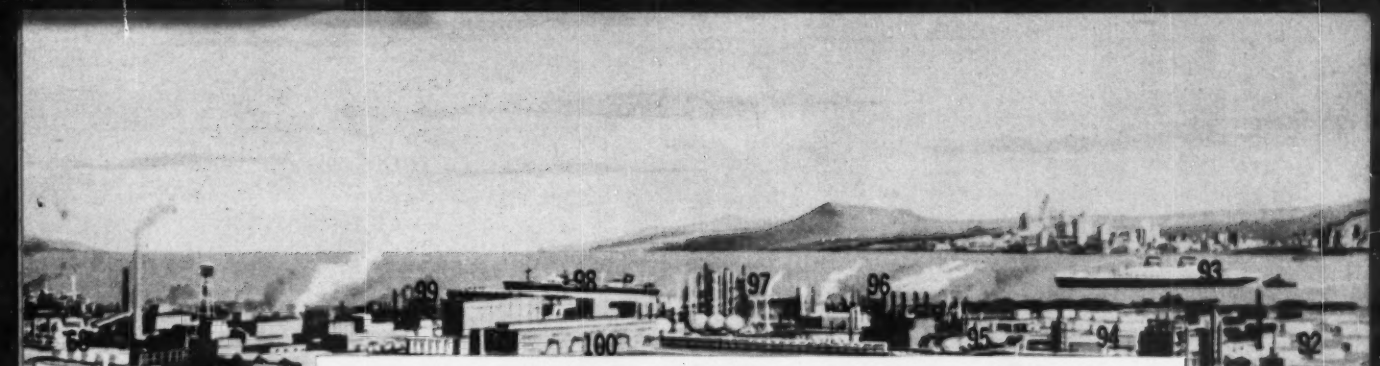

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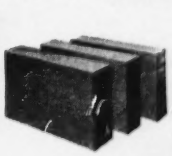

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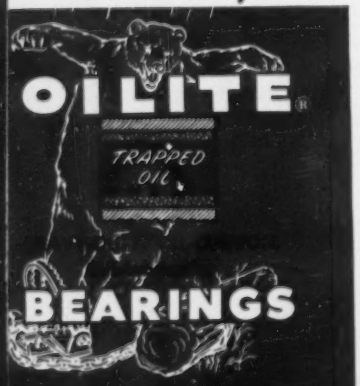

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Let us mail you our Bulletin S-53.

CHRYSLER CORPORATION
AMPLEX DIVISION

Dept. M-12 Detroit 31, Michigan

OILITE PRODUCTS include: Bearings, Finished Machine Parts, Cored and Solid Bars, Permanent Filters and Special Units of Non-Ferrous and Ferrous Metals and Alloys.

Shorts and Remnants

bearing wheel chair. We've got to enjoy that prosperity.

► "Hard Sell Means Hard Facts" in this issue. Merchandising is a theme you are going to see more of in TEXTILE INDUSTRIES. It is important to everyone in the mills. The whole fate of the industry lies in research. merchandising, and in plain terms "making only what can be sold and selling it at a profit." Sounds simple. They tell us it's not quite that easy.

► Eric Seligmann of Trumeter Company, New York, New York, writes, "I'm enclosing a photoprint of our exhibit in Greenville, South Carolina. Since TEXTILE INDUSTRIES is prominently advertised on this print, we think you should publish this picture." OK Eric, here it is

► You know that's one thing TEXTILE INDUSTRIES started at textile shows years ago. To further tie in the exhibits with the advertising being carried in our pages, we furnished exhibitors mounted copies of their advertising in our magazine to show in their booths.

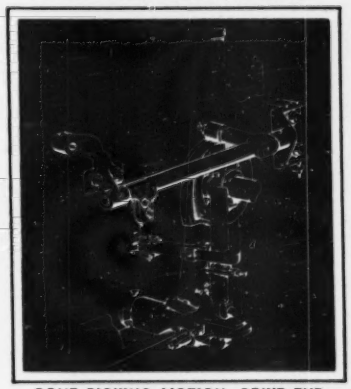
► We noticed at least one other publication doing the same at the Atlantic City Show, two others at the Atlanta AATCC Exhibit, and two others doing this at the recent Greenville Show. They say that imitation is "the sincerest form of flattery."

► That collection of new equipment items in our November issue was also an innovation in the textile industry by TEXTILE INDUSTRIES—15

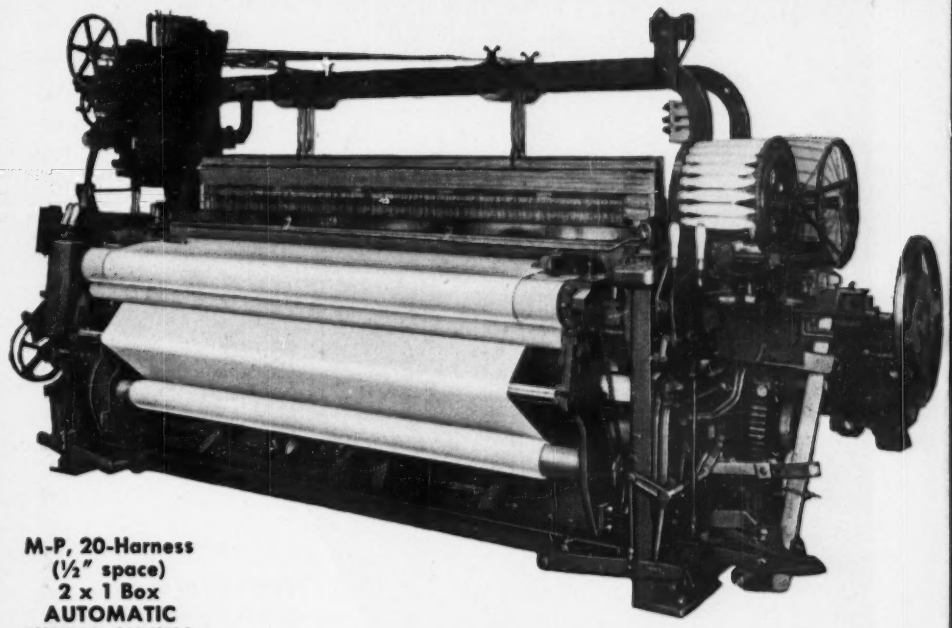
No. 2 in a series explaining

Why C&K's New Multi-Purpose Looms mean More Profit to any mill

CONE PICKING MOTION, BOX END



CONE PICKING MOTION, DRIVE END
(Center fire picker used at both ends on 1 x 1 box lay).



M-P, 20-Harness
(½" space)
2 x 1 Box
AUTOMATIC
FILLING MIXING
HEAD LOOM

3 Ways in which CONE PICKING helps make More Profit on all types of M-P Looms

1: LOW MAINTENANCE . . .
because of less weight of moving parts . . . less wear and tear on the entire picking motion . . . and adjustable back bearing to compensate for wear.

2: HIGHER SPEEDS . . .
made possible by better design and materials. For example, drop-forged steel picking shafts — with larger, hardened trunnions and shock-absorbing devices that "take the kick out of the pick" — such features permit higher speeds without penalties.

3: INCREASED WORK-ASSIGNMENTS . . .
may be achieved as the result of many M-P features including cone picking (SEE CHECK LIST) . . .

And, while cone picking may not be generally regarded as a direct contributor to better quality, still this trouble-free mechanism plays its part in maintaining the mechanical precision of loom operation without which quality could not be consistently held at top levels.

Check *your* objectives on the check list. Then see C&K without delay, for the new M-P Looms you need in your mill.

THESE NEW M-P FEATURES CONTRIBUTE→TO THESE PROFIT FACTORS

	Better Quality	Increased Work Assignments	Increased Production (Speed X Efficiency)	Lower Maintenance	Versatility
Rotary Magazine: For single color, or for multiple-color work (up to 4).	✓	✓	✓	✓	✓
Scissors Thread Cutter	✓	✓	✓	✓	✓
Vacuum Filling Control	✓	✓	✓	✓	✓
Cone Picking		✓	✓		✓
More Rugged Basic Frame: Common to all M-P Looms.		✓	✓	✓	
Letoffs: New composite type. Also other standard and special types.	✓	✓	✓	✓	✓
Takeups: All purpose, silk, or lower winding roll.	✓	✓		✓	✓
Lay: Precision-built and convertible — 1x1, 2x1, 4x1, 4x2, and 4x4	✓	✓	✓	✓	✓
Shedding Mechanisms: Knowles Head — 25 Harness, 4/10" Space Knowles Head — 20 Harness, 1/2" Space Dobby — 20 Harness, 15/32" Gauge Undercam Jacquard	✓	✓	✓	✓	✓
Feelers: As required.	✓	✓	✓	✓	✓
Driving & Shipping	✓	✓	✓	✓	✓

PRECISION, STRENGTH, SIMPLICITY Throughout Every M-P Loom

Crompton & Knowles
LOOM WORKS
WORCESTER 1, MASSACHUSETTS, U. S. A.

Charlotte, N. C. • Philadelphia, Pa. • Allentown, Pa.
Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.
Crompton & Knowles of Canada Limited, Montreal, Quebec

MAKE
SMOOTH SAILING
OF YOUR
WATER-REPELLENT
PROBLEMS
WITH...

®

NISH

Hydro-Pruf allows you to assure your customers truly durable water repellency, plus a finer hand.

What's more, Hydro-Pruf is easier, faster and more economical to use, for these reasons:

APPLICATION EASE—readily miscible in cold water... applies equally well from hot or cold solutions... does not build up on rolls... **can be run all day without stopping machine to wash.**

FULL COMPATIBILITY—can be used with all urea and melamine formaldehyde resins... and with many others of the non-curing types.

GREATER ECONOMY—ease, speed and efficiency of application... lower bath concentration.. higher production.

FABRIC VERSATILITY—excellent on most fabrics: acetate and viscose... both spun and filament... cotton ...wool... silk... nylon and other synthetics.

Write for Hydro-Pruf Booklet and Technical Service Bulletin

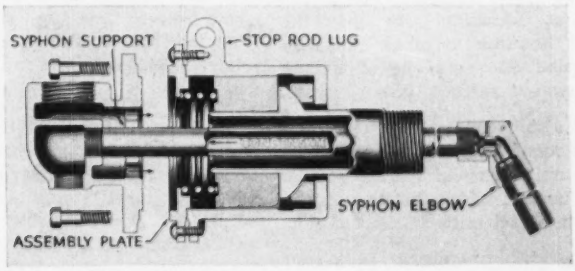
ARKANSAS CO., INC.
Serving the Textile Industry for over 50 Years
NEWARK, NEW JERSEY

THE NEW Johnson Syphon Elbow AND THE NEW Johnson Joint

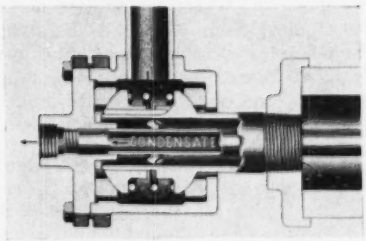
Learn why so many thousands of these new mechanical syphon elbows have already been installed. See right in your own mill how they team up with Johnson Joints to end many of the troubles of ordinary syphon drainage pipes. We'll gladly supply a couple of these combinations for a 90-day trial, and even prepay the shipping charges if you wish. There are no strings to this offer, no obligation to you.

Johnson Syphon Elbows are available in ⅛", ⅜", ½", ¾" and 1" sizes. Johnson Joints available in three types shown below. To get full information write, wire or phone us right now.

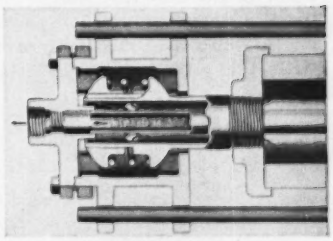
SELF SUPPORTED



PIPE SUPPORTED



ROD SUPPORTED



Johnson Rotary Pressure Joints — 3 types answer all needs

Johnson Joints make a pefect combination with the new syphon elbow. They are completely packless, self-lubricating and self-adjusting. For this service a special assembly plate is provided to hold internal parts in position when head is removed; complete syphon pipe, including the new elbow, can be removed right through the joint, in many cases while the machine is operating. Picture above shows the complete combination; the other two do not show assembly plates or syphon elbows.

Products of The

815 WOOD ST., THREE RIVERS, MICH.

Rotary Pressure Joints • Compressed Air Separators and Aftercoolers
Direct Operated Solenoid Valves • "Instant" Steam Water Heaters

Shorts and Remnants

years ago. Now three and possibly more textile magazines are doing this also. We started to say "as well" but that wouldn't be true. There were over 400 items reviewed in the November issue.

► Some of our competitors come up with "letters to the editor," and we wouldn't be surprised if sometime they might even try to copy Ole S&R. If so, we will send them on our surplus jokes which are submitted, but most of them unfit to print. Actually, most of them remind us about the story of the country boy who was asked if he had any pornographic literature and he said "Heck no, I don't even have a pornograph." We don't either.

► Riding through the country recently, we saw a sign at the entrance to Lancaster, South Carolina, advertising Springs Cotton Mills and "Spring Maid Sheets." The sign said "largest in the U.S.A." Our directory shows 313,480 spindles and 7,800 looms at Lancaster. Is this the largest? Reminds us of an exchange we carried on years ago about the largest weave shed.

► It also reminds us of an item carried about ten years ago about the 100th Anniversary of Tallassee Mills and a question which this brought up as to the oldest mills in the U.S.A.

► Speaking of records, a recent blotter from George B. Snow of Atlanta Brush Company states that "I have just passed my 76th birthday on September 15, 1954, 41 of them with the Atlanta Brush Company

Mr. Snow

catering to the textile industry and driving my car 1,600,000 miles. . . . " We believe George is the oldest man in service actively on the road today, and we are publishing his picture here. We like salesmen. Congratulations, George, and keep it up.

► We also like advertising agencies, and one of our good friends in the agency business awards a pretty handsome trophy at the outing of the Independent Association of Stocking Manufacturers. Presenting the Abner J. Gelula & Associates trophy at the Annual Outing of this Association is

Anthony I. Gavaghan, chairman of the outing committee. Looking on is George D. McKinney, president of the association, and receiving the award is Albert S. Horn of the S & S Hosiery Company, Pennsauken, N. J.

► We get a lot of mail from textile students, teachers, etc., and we always try to give them as much information as we can. We know that our advertisers also get inquiries from time to time from students and that they too furnish them all of the material they can.

► Typical inquiries currently come from Miss Audrey Newton at the University of Wisconsin, who is doing a study on cotton fabrics with crease recovery finish; from Roger Moquin of the St. Hyacinthe Textile School in Canada, who is studying neps in cotton; from Andre L. Chaloux of the New Bedford Institute of Textiles, who wants information on time studies; from Walter B. Mihalik of Glen Rock, New Jersey, who wants poundage or yardage of cotton fabrics with and without mercerization or special chemical treatment.

"Why don't you invent a Gadget?"

A current letter from Don L. Davis, president of the "Gadget-of-the-Month Club Foundation" of Los Angeles, California, lets us in on the ground floor on the wonderous doings in the great and glorious state of California and also in on the important and weighty proceedings in our own Congress.

Mr. Davis writes to us as follows: "What company in your industry, in your opinion, has done the best job of pioneering a new product, process, or procedure? . . . On January 5th this Foundation will award a 'Pioneer of Progress' plaque to the company in every field of American industry who has pioneered successfully a new product, process, or procedure. . . . " He enclosed a page from the *Congressional Record* covering the remarks of the Honorable Gordon L. McDonough of California in the House of Representatives Tuesday, May 5, 1953, and covering the doings of the "Gadget-of-the-Month Club" and quoting at length an article from *Reader's Digest* on "Why Don't You Invent a Gadget?"

OK, we'll try. Anybody got any ideas?

P. S. The telephone number of the Club is Hollywood 3-7101.

P. S. No. 2. The sheet from the *Congressional Record* was printed at government expense.

Europe Wants Neptel

"We have received requests from our European customers for information on the 'Neptel.' We would appreciate it very much if you will send us 15 copies of reprint (Oct. '54)."

K. T. LOUIS
Lab. Dir. Otto Goedecke
Hallettsville, Texas.

► Paging Sheffield Corporation, Dayton, Ohio, who reprinted this article.

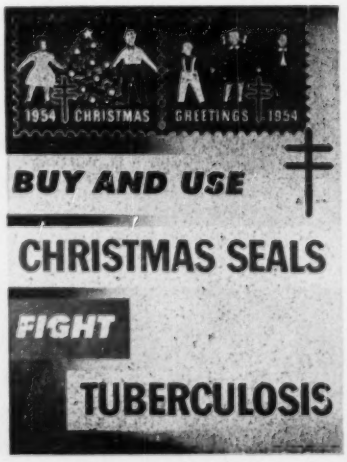
Corduroy Directory

" . . . I am looking for some information which possibly isn't even compiled. I'd like to know the firms doing corduroy cutting. Do you know of any such directory? . . . "

JESSE W. ELLINGTON
Aragon, Georgia

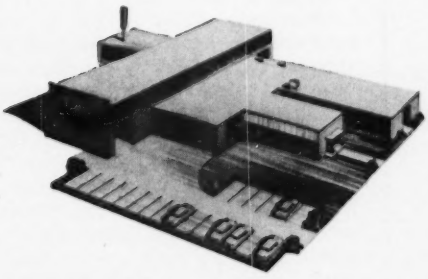
Wants Seamless Knitting Reprints

"If reprints of the article in the October issue of TEXTILE INDUSTRIES entitled 'A Guide to Fixing SCP-51 Knitting Machines' (Oct. '54) are available I would appreciate receiv-



it took 69 years to lay this foundation

Architect's drawing of Stowe-Woodward's new Griffin, Georgia plant scheduled for operation January 1955.



There's a *lot more* than construction materials in the foundation of Stowe-Woodward's new Griffin, Georgia plant. For this new foundation is built upon the broad base of confidence . . . the confidence of America's paper and textile manufacturers in Stowe-Woodward's.

— "Rubber Rolls with a Reputation" —

Following the opening last June of the Neenah, Wisconsin rubber roll factory, and strategically located for the fast growing paper and textile industries of the South, this new Griffin plant marks the second major step this year in an expansion program designed to bring Stowe-Woodward service closer to the industries it serves.

Stowe-Woodward's new Griffin factory will be the world's most modern rubber roll manufacturing plant . . . painstakingly designed for the manufacture of rubber rolls for your most difficult and exacting requirements.

STOWE-WOODWARD, Inc.

Craftsmen in rubber rolls

NEENAH, WISCONSIN — NEWTON 64, MASSACHUSETTS — GRIFFIN, GEORGIA

THE TEXTILE INDUSTRY *Banks on* BIJUR AUTOMATIC LUBRICATION

In hundreds of mills Bijur Automatic Lubrication is paying big dividends in increased production and lower operating costs.

With Bijur, a machine oils itself—while running. You profit from increased production on every machine. There are no stops for oiling and bearing failures are virtually eliminated.

When your machines are Bijur-equipped, even the most inaccessible bearings get the right amount of filtered oil at the right time.

Your operating costs are cut: oil spots on work are eliminated, personnel injuries are avoided, fire risk is reduced, oil consumption is cut greatly by accurate metering, and you enjoy better housekeeping.

Leading textile mills are banking on Bijur Automatic Lubrication. Let us show you how we can help you do the same.

9-5

2365

Colorful, new bulletin, "From Fibre to Fabric," shows the practical benefits that Bijur Automatic Lubrication offers to the Textile Industry. Write for your copy.

BIJUR LUBRICATING CORPORATION
Rochelle Park, New Jersey

Pioneers in Automatic Lubrication

Shorts and Remnants

ing ten copies along with ten copies of Part 2 of the same series when it becomes available. . . . "

C. RICHTER SMITH, JR.
Pres. Concord Mfg. Co.
Concord, Georgia.

Visual Aids for Rayon Plant

"I should like to have a copy of your film booklet, 'Visual Aids for the Textile Industry'. . . . "

STERLING D. HUGGENS
Ind. Rel. Dept. American Enka Corp.
Enka, North Carolina

Wants Full-Fashioned Book

"Am trying to get a book on Reading knitting machine—one that would tell you all about it. . . "

R. L. WASHINGTON
Selma, Alabama

Reprints for Jaunty Fabrics

"Please send me two reprints each of the following articles appearing in your September, 1954 issue: 'What Fibers are in the Blend?' by W. R. Wilson and 'Is Your Product Quality Suffering Because of Counter Operators?' by Harry Thomas."

W. J. HART
Tech. Dir. The Jaunty Fabric Corp.
Scranton, Pa.

Hurricane Puts Lab Under 6 Feet Water

"Hurricane 'Carol' really hit us hard here in the Wamsutta Lab. If you can visualize a well equipped laboratory and records under 6 feet of salt water, then you can realize the dilemma we are in. Amongst the various equipment we have lost, I have lost all my reprints of articles including those from TEXTILE INDUSTRIES. I would therefore greatly appreciate it if you could send me as many reprints as you can spare on. . . . "

EDWARD S. RUDNICK
Dir. Research Wamsutta Mills
New Bedford, Massachusetts

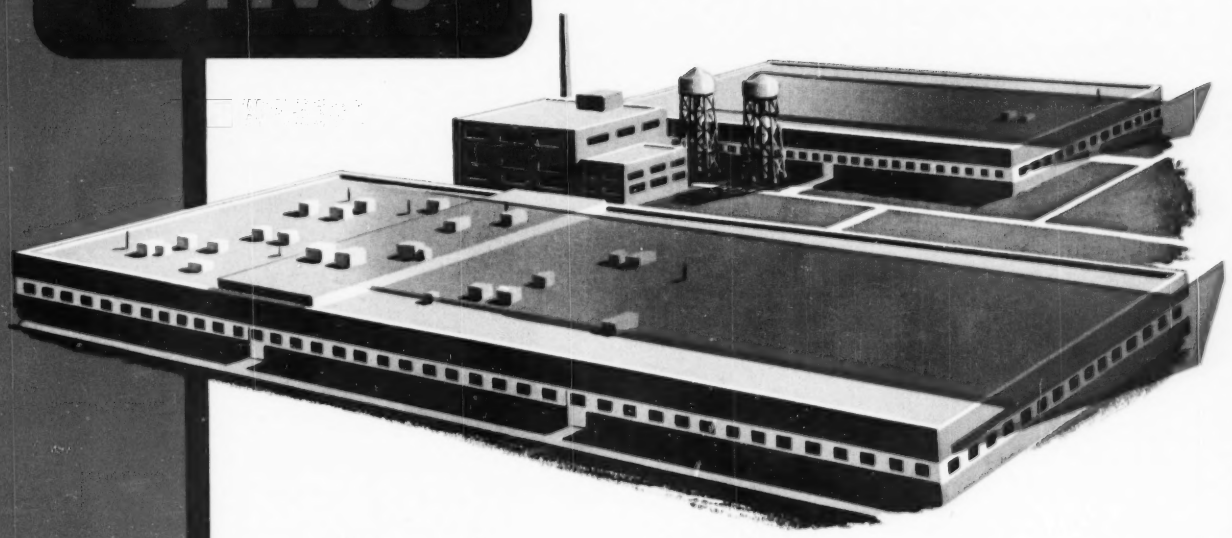
Wants Extras on "Textile Training"

"Earlier this year you were kind enough to send me a reprint of your 'Textile Training' report originally published in TEXTILE INDUSTRIES in March 1952. I have made valuable use of this material in my division and have circulated my copy among the other training supervisors in this plant.

"We are now putting increased

ALLIS-CHALMERS

Textile Drives



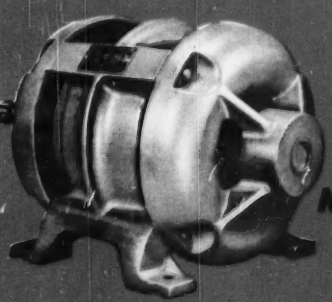
All through the plant

get

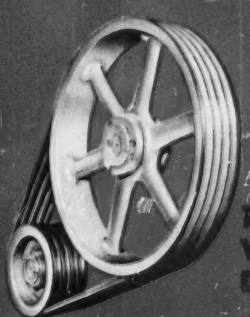
- More production
- Higher product quality
- Lower maintenance costs

With the ALLIS-CHALMERS POWER PACKAGE

Control



Motor



Texrope V-Belt Drive

Everything from Power Line to Driven Shaft

A-4485

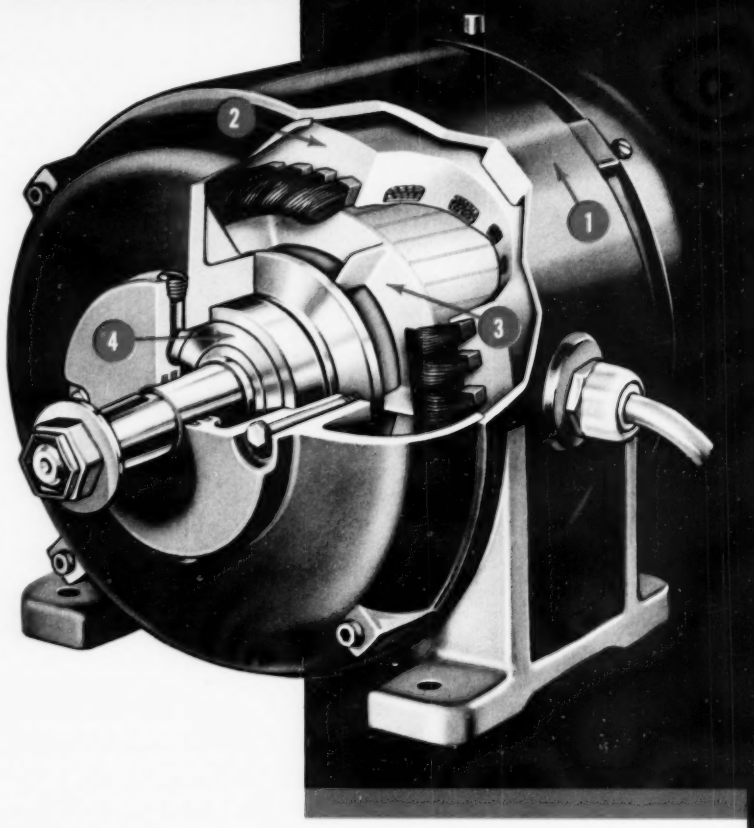
ALLIS-CHALMERS

WEAVING

New Design Licks Oscillating Load Problems in Looms at Modern High Speeds

THIS NEW ALLIS-CHALMERS LOOM MOTOR DESIGN is the result of thorough research into the true nature of loom motor loads. Under modern high speed operating conditions, which sometimes run as high as 200 picks per minute, rapidly oscillating loads create special electrical and mechanical problems.

This new Allis-Chalmers motor was designed with oversize rotor, stator and bearings to handle this added load. Rotor diameter is as great as possible to provide maximum flywheel effect (Wk^2) while slip has been regulated to produce minimum speed variation. Over a year and a half of field testing of hundreds of motors has proved the great operating economies possible with this new motor.



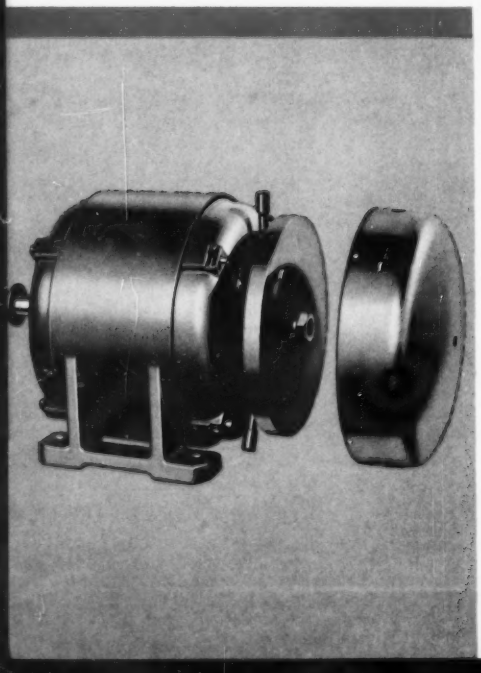
DESIGN FEATURES

1 Motor is totally enclosed, non-ventilated . . . excludes all lint from interior. Both the yoke and bearing housings are cast iron.

2 Stator is double insulated and extra large with heavy construction to meet stress of rapid load oscillation. Stator laminations are welded across back to provide rigid core.

3 Die cast rotor is of largest practical diameter. Maximum inertia in rotor plus proper design of slip makes motor operate at stable speed under pulsating load.

4 Oversize ball bearings of double-shielded type (see above)...allows controlled migration of grease in and out of bearing . . . protects against overgreasing, the greatest cause of bearing trouble. (Optional waste-packed sleeve bearing construction at lower right.)

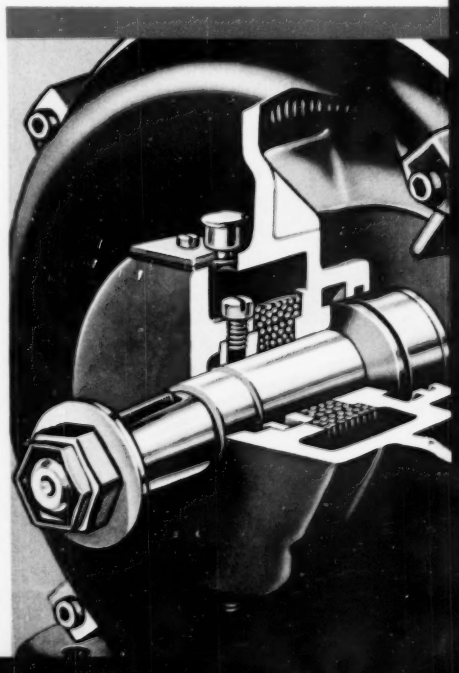


Flywheels Available for Added Inertia (Wk^2)

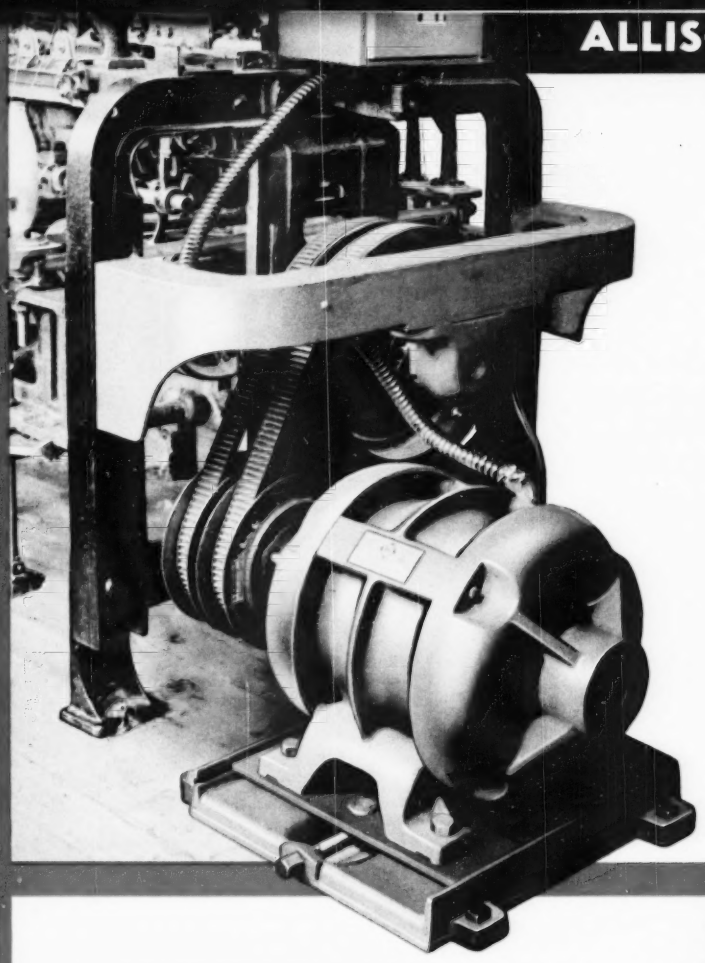
Allis-Chalmers loom motors are available in three inertia categories: more than 1 lb-ft², more than 2 lb-ft², and more than 3 lb-ft². Flywheel models have the same flywheel cover and same dimensions.

Optional . . . Waste-Packed Sleeve Bearing

Wool waste saturated with oil is used to lubricate shaft and bronze sleeve. Slot in upper side of sleeve permits waste to come in direct contact with load-carrying area of shaft. Excess oil drains to outside to prevent damage to windings.



ALLIS-CHALMERS Textile Drives



ROVING and SPINNING

Get the Motor That Dirt and Lint Can't Stop

There's no motor problem caused by lint-laden atmospheres that can't be solved using *Quick-Clean* textile motors.

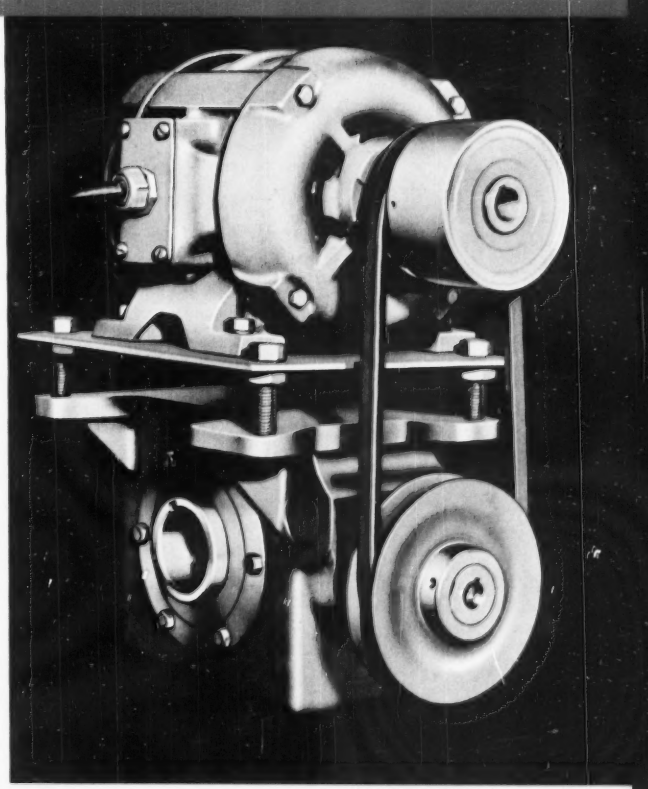
Powerful fans sweep lint and dirt through wide open air passages — and right out of the motor.

Sealed and pre-lubricated double width, single row ball bearings are an important feature of the *Quick-Clean* motor. They will operate for long periods without attention of any kind. When motor is dismantled they may then be cleaned and repacked. Inside face of bearing is protected from lint by a collar pressed onto motor shaft.

Same basic design is available with special acceleration characteristics for roving frame drives. Motor takes almost three times as long to reach full speed as standard motor. No special control required.

In addition, Allis-Chalmers can supply control and *Texrope* V-belt drive to meet complete machine drive needs.

CARDING



Quick-Clean motor used to drive gear reducer through *Texrope* V-belt drive and mercury clutch. Sheave is adjustable to permit cylinder speeds between 157 and 189 rpm.

Control Cards Individually... Make Card Rooms Cleaner and Safer!

INDIVIDUAL CARD DRIVES solve problems in cleanliness, safety and lighting created by overhead line shafting. With these drives, there is no hard-to-reach overhead structure to clean . . . no dirt and grease to drop into machine.

In addition, your plant will be cleaner and more modern looking without a forest of shafting and belting hanging from the ceiling. And, with Allis-Chalmers card drives, there is plenty of room on the ceiling for air conditioning equipment.

Changing to Allis-Chalmers individual card drives is simple. The complete drive unit mounts on your present card cylinder shaft. A torque arm attached to the card keeps it in place. It fits present aisle space. Note that there is no vibration or strain on the card arch, and weight of the drive does not overload the bearing.

A-C ALLIS-CHALMERS

ALLIS-CHALMERS

Specialized Service Backs these Drives

Allis-Chalmers distributors and district offices are equipped to provide the application help you need. In addition, the distributors listed below operate "Certified Service" shops. Here factory-approved methods and parts are used to assure like-new service from your motors, transformers and control.

Allis-Chalmers District Offices and Certified Service Shops in Textile Areas

Allis-Chalmers textile specialists are located in the following cities:

Atlanta, Georgia
Birmingham, Alabama
Boston, Massachusetts
Charlotte, North Carolina
Chattanooga, Tennessee
Dallas, Texas
New Orleans, Louisiana
Providence, Rhode Island
Richmond, Virginia

Certified Service Shops

ALABAMA
- Birmingham — Electrical Repair & Service Co., 2411 First Ave., South
- Dothan — Alabama Electric Company, 215 E. Troy Street
- Montgomery — Standard Electric Co., 505 N. Decatur St.
- Tuscaloosa — Freeman's Electric Company, 1616 25th Ave.

CONNECTICUT
- Hartford — Charles H. Leppert, 100 Walnut Street

GEORGIA
- Albany — Georgia Electric Co., 927 Roosevelt Ave.
- Atlanta — Bearden-Thompson Electric Co., 1085 Bankhead Ave., N.W.

NEW HAMPSHIRE
- Concord — A. S. Tracy, 28 Green Street

NORTH CAROLINA
- Charlotte — Southern Electric Service Co., Inc., 714 W. Trade Street
- Greensboro — Southern Electric Service Co., Inc.
- Henderson — Electric Motor & Machine Service, 518 W. Montgomery Street
- Rocky Mount — Hammond Electric Company, 824 S. Church Street
- Columbus — Smith-Gray Electric Company, 710 Third Ave.

LOUISIANA
- New Orleans — Industrial Electric, Inc., 3227 Magazine Street
- Shreveport — Shreveport Armature & Electric Works, 800 Spring St.

MAINE
- Brewer — Stanley J. Leen Company, 54 Wilson Street

MASSACHUSETTS
- Lawrence — Roland B. Glines Co., 265 Lowell Street
- Springfield — Electric Motor Repair Co., 11 Park Street

SOUTH CAROLINA
- Greenville — Southern Electric Service Company, Inc.
- Spartanburg — Southern Electric Service Company, Inc.

TENNESSEE
- LaFollette — Standard Armature Works, LaFollette, Tenn.
- Memphis — Industrial Electric & Supply Co., Inc., 62 Auction Ave.

TEXAS
- Amarillo — G. E. Jones Electric Company Inc., 212 N. Polk Street
- Dallas — Industrial Electric Equipment Co., 1119 S. Industrial Blvd.
- Fort Worth — Central Electric Company, 712 N. Main Street

VIRGINIA
- Norfolk — Virginia-Carolina Electrical Works, 1007 E. Main Street
- Richmond — Wingfield & Hundley, 13 South 17th Street
- Roanoke — Virginia Armature Company, 310 W. Salem Avenue

Texrope, Quick-Clean, and Vari-Pitch are Allis-Chalmers trademarks.

Get More Information

Allis-Chalmers Manufacturing Company, Milwaukee 1, Wisconsin

Please send me literature checked below.

- ☐ Handy Guide to Motor Selection 51B6052
- ☐ *Quick-Clean* Textile Motors 51B6055B
- ☐ Across-the-Line Starters 14B7132
- ☐ Reduced-voltage Starters 14B7215
- ☐ *Vari-Pitch* Drive Engineering Data 20B7499

Name..... Title..... Company.....

Street..... City and State.....

A-4485

ALLIS-CHALMERS

Du Pont announces "SEVRON"* dyes for "ORLON" that give good light and wet fastness

The new Du Pont "SEVRON" dyes have been developed *specifically* for "ORLON." They represent a major advance in dyeing this acrylic fiber for they have a good fastness to light and washing. They give excellent build-up in heavy shades.

Because "SEVRON" dyes have a direct affinity for "ORLON" Type 42 fiber, you can apply them directly to stock, top, yarn and piece goods — *without* using the copper method. And "SEVRON" dyes give level dyeing in the entire range of bright shades . . . can be duplicated readily from one run to another.

Try these new dyes the next time you are dyeing "ORLON":

"SEVRON" Yellow L	**"SEVRON" Blue B**
"SEVRON" Yellow R	**"SEVRON" Blue 2G**
"SEVRON" Brilliant Red 4G	**"SEVRON" Green B**

You can easily obtain technical assistance in any problems in dyeing the new fibers or blends of the old and new. Just write E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Delaware.

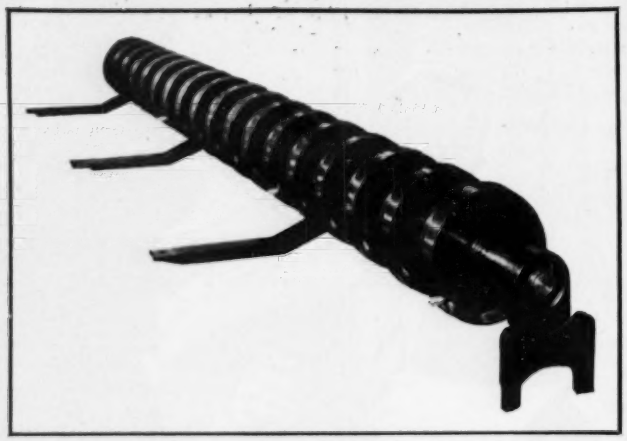
**Trade-mark*
†*"ORLON" is Du Pont's trade-mark for its acrylic fiber.*

Du Pont Dyes

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . THROUGH CHEMISTRY

meadows
MODERNIZERS



Meadows Individual Pulley Drives

Cost More—Worth More!

. . . but, the small extra initial cost is outweighed *many times* by the difference in maintenance cost and smoothness of operation over the years following installation.

These pulleys have a patented hub with a protector-ring inside, to prevent the set-screws from burring the shaft. Therefore they are easy to adjust or to remove from the shaft. They are perfectly balanced, and mounted on SAE 1040 ground and polished steel shafting. The shafting is mounted in heavy duty self-aligning ball bearings.

This Drive, properly installed, will give *years* and *years* of trouble-free service. No heads to pull out — no seams to split — nothing to solder — nothing to get out of balance.

If you want to get away from cylinder troubles *for keeps* — just drop us a line!

WALTER S. COLEMAN
P. O. Box 782
Salisbury, North Carolina

G. P. (JACK) STANLEY
P. O. Station A—Box 3223
Greenville, South Carolina

MATTHEWS EQUIPMENT COMPANY
93-A Broadway
Providence 3, Rhode Island

MEADOWS MANUFACTURING CO.
ATLANTA, GEORGIA

Shorts and Remnants

emphasis on training at our plants in Burlington, N. C., and Manchester, N. H. If possible I would like copies for the superintendents of each of these plants and three additional copies for use here in Providence. . . "

ROBERT L. THOMPSON
Div. Training Supt. U. S. Rubber Co.
Providence, R. I.

Handling Waste

"Would you please tell me what is the general practice in the handling of re-workable waste; that is, just how do most mills calculate the percentage of re-workable waste? . . . "

R. S. M.
Georgia

► Sent "Waste Reduction and Control" (October '48). Also, watch TI for feature soon on this subject.

Blending Synthetics for Carpet Mill

"Please RUSH shipment on our Order No. 34126-M to McCLEARY DIVISION dated 5/17/54 calling for 1 Photostatic Copy title Blending Synthetic Fibers."

G. T. LIDDLE
Pur. Dept. Mohawk Carpet Mills, Inc.
Amsterdam, N. Y.

Syria Wants to Buy Spinning

"Being a firm specialized in textile machinery, spinning machinery in particular, we were taken aback by the new carding set and ring frame which you show on page 144 and on, of the TEXTILE INDUSTRIES September ('54) issue.

"In view of offering a small spinning plant of one carding set, of two cards, and three cards, alternately, together with ring frames sufficient to take up the production of these carding sets, we request you to please send to us your quotations. . . . "

A. H. CUTUJIAN
P. O. Box 488
Aleppo, Syria

► Details upon request if anyone interested.

Good Article on Knitting Machine

" . . . Hemphill Company wishes to express its sincerest appreciation for the wonderful and extremely fair manner in which your publication has treated our new Intarsia machine. The article appearing in the current issue of TEXTILE INDUSTRIES has been executed in such good manner and with such finesse that little is left to

NEED HELP WITH
Processing Problems?
CALL FOR THE HOUGHTON MAN...
He is constantly meeting up with a wide variety of problems as he's called into textile mills. You will not only get the benefit of his own experience in getting to the core of the problem, but back of him is the Houghton organization with years of research and development work in the textile processing field.

NEED PRODUCTION-IMPROVING

Processing Products?

Ask the Houghton Man about these when he calls . . .

FOR COTTONS . . . Depend on Houghto-Size sizing compounds . . . concentrated . . . providing high weave-room efficiency. For slicker warps with excellent fiber lay use also Houghto-Wax in the size kettle.

FOR WOOLENS . . . Sulfol 448, non-ionic stock lubricant for woolens and worsteds, which minimizes static, is odorless, non-staining, non-corrosive. Also Lanolubric wool oils, well known for over half a century for their dependable performance.

FOR SYNTHETICS . . . Raylubric oils for softening, soaking and throwing rayon and synthetic fibers.

Powdered Houghto-Size 475
NEW!
. . . a product of Houghton research that contains all the ingredients needed in a warp size softener. Assures highest slashing and weaving efficiency. Get further information—or let us make a size check-up test in your slasher room.
HOUGHTON & CO.

Ask your Houghton Man about the full line of Houghton surface active agents or write E. F. Houghton & Co., Philadelphia 33, Pa.

E. F. HOUGHTON & CO.
PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

Ready to give you on-the-job service . . .

"foot-friendly"

NORTHERN HARD MAPLE

in Riegel Textile's New Trion warp spinning mill

Equipped throughout with modern machinery of the latest model, this unit of Riegel Textile Corporation at Trion, Ga., occupies space formerly devoted to glove manufacture. Glistening-clean floors of "foot-friendly" Northern Hard Maple provide comfort for the workers as well as the basis for the "good housekeeping" that will always be the mark of a well-managed mill. No other floor has yet been found to match the way maple fights abrasion, offers no lodgement for dirt or lint, resists oil and grease, and responds so beautifully to simple brush-and-broom cleaning. And, by the way, today's TOP BUYS in flooring are **MFMA** Second, or Second-and-Better grades. They're money-savers, and are warranted absolutely sound and precise in dimension. See Sweet's (Arch. 12k-MA) or write for newest flooring facts.

the finest floor that grows

MAPLE FLOORING MANUFACTURERS ASSOCIATION
Suite 591, Pure Oil Building, 35 E. Wacker Drive, Chicago 1, Illinois

FLOOR WITH NORTHERN HARD MAPLE BEECH AND BIRCH

Shorts and Remnants

the imagination or to be desired. . . "

NORMAN D. LANGLOIS
Public Relations Dir.
Hemphill Company
Pawtucket, R. I.

E-Z MILLS, INC.
Cartersville, Georgia

October 11, 1954

Mr. Ringgold Arden
Textile Industries Magazine
806 Peachtree St. N.E.
Atlanta 5, Georgia

Dear Mr. Arden:

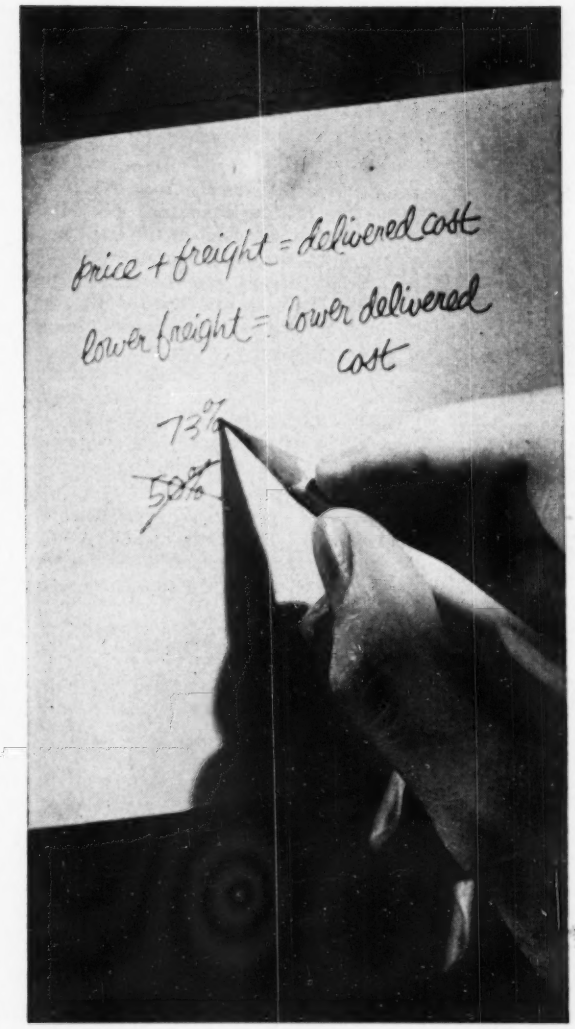
I have just had the pleasure of reading your article entitled, "Creeping Socialism" in the October issue of TEXTILE INDUSTRIES. I think this is an excellent article.

It seems to me, however, that the important thing is not "Is Socialism Creeping" or "What Is Socialism" or "Is the T.V.A. Creeping Socialism." The important thing is what the voters understand and think. It seems to me that the majority of our voters like to repeat skillfully-worded, strong-language, half-truths that were put in their mouths by politicians and commentators, rather than statements showing intelligent thinking. They do not know what socialism is except that it is something bad. Publicity has taught them that T.V.A. is something good. If you question the majority of voters on the reasons for their beliefs and on the reasons for the pat expressions they repeat, they either become insulted or become confused in their ignorance.

What I would like to see on this subject is effective publicity, not addressed to people who already know the facts, but addressed to those who don't know them. How can we make these people think?

Sincerely yours,
E. Z. MILLS, INC.
James MacDonald, Jr.
Textile Engineer

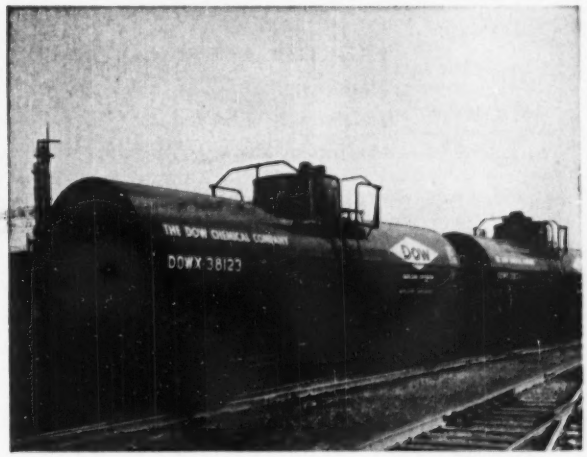
JM/fw



THE ECONOMIES OF 73% CAUSTIC SODA SOLUTION are no longer reserved for the largest users . . . lower shipping costs now make it the best form for you, too.

73% CAUSTIC SODA . . .

a little figuring may prove it your best buy!



FAST, DEPENDABLE DELIVERY of uniform 73% caustic solution is assured through use of Dow-owned tank cars. These 8,000- and 10,000-gallon cars are insulated, protectively lined, and fitted with nickel heating coils; unload from top or bottom by air pressure or pump. Frangible discs, protective plug cocks are two of the advanced safety features.

How long has it been since you have checked your caustic buying habits in the light of increasing cost factors? Higher freight rates are erasing the savings in 50% caustic solution for more and more users every day. Even users located near shipping points save money with 73%, since the higher price of even shorter distance hauls quickly wipes out the price difference between 73% and 50%.

73% caustic must be diluted when received, but most caustic users dilute 50% solution, too. The cost of additional handling equipment for dilution, when fairly amortized, becomes a small item in comparison to your over-all cost reduction.

If you are still buying 50% caustic solution, discussion in your plant and consultation with our Alkali Technical Service is indicated. Perhaps the comprehensive Dow Caustic Soda Handbook can help you in preliminary discussion. Ask your Dow sales representative for your free copy or write to THE DOW CHEMICAL COMPANY, Dept. AL-901F-1, Midland, Michigan.

you can depend on DOW CHEMICALS

DOW

Short Cut

to FINE YARN . . .

with the NEW

PROCTOR SYNTHETIC CARD

PROCTOR & SCHWARTZ is now delivering complete installations of the new Proctor Synthetic Card which was admired at the Atlantic City Textile Machinery Show, by spinners from all over the world.

While the card in the Show Booth was running on a rayon blend, similar cards are suitable for handling orlon, dacron, nylon and other synthetic fibers.

Cards having other types of wiring, and with burring and shive apparatus added are available for handling wool fibers . . . other units are available for making blends of synthetics with wool, mohair and other natural fibers. Several sets of cards are now being built to handle jute waste on a Proctor Short System.

Proctor engineers will gladly help you with your carding problems, or give you details about Proctor Preparatory Equipment and Proctor Blending Systems.

See Proctor carding equipment at work right in your own mill. Now available for free loan is Proctor's 16 mm sound, color film "Short Cut to Fine Yarn" . . . informative . . . educational.

PROCTOR & SCHWARTZ INC.
7th ST. & TABOR ROAD, PHILA. 20, PA.

☐ Send Bulletin # 396
"Short Cut to Fine Yarn"

☐ Have your engineer contact us

NAME_____

COMPANY_____

STREET_____

CITY_____ STATE_____

Shorts and Remnants

Woolen Mill Wants Open-Width Dry Milling Machine

"We are a woolen textile mill with our own finishing operation. At the present time we are investigating the possibilities of an open-width dry milling machine. This machine might also be called a crushing machine.

"Would it be possible to obtain the names of advertisers that might make this equipment? . . . "

INDUSTRIAL ENGINEER

► Referred to James Hunter Machine Company; Riggs & Lombard, Inc.; and Parks & Woolson Machine Company. Two first named replied they do not make. Parks & Woolson has one on test in a prominent woolen mill.

MARCH OF DIMES

FIGHT INFANTILE PARALYSIS

JANUARY 3-31

Cost Accounting in Hosiery

" . . . I am preparing a Ph.D thesis on 'The Theory and Technique of Cost Accounting in the Hosiery Industry' . . . Any help which you can give me will be genuinely appreciated. . . "

A. W. PATRICK
Instructor
University of Michigan
Ann Arbor, Michigan

► Brother Patrick, the theory is all very well and good, but if you master the technique you've got yourself a job.

Help From Canada

" . . . If you will have CONTRIBUTOR No. 8689 write to me and I will send him a blueprint on how to make a simple gadget to press a clutch plate on an XD loom without using a hammer, and only one man required to do the job, and the job of pushing the plate done in 15 minutes. . . "

THEODORE A. FOURNIER
Coaticook, Quebec

TENSION REGULATION PROBLEMS?

LEESONA

UNIVERSAL WINDING CO.

SOLVES THEM WITH

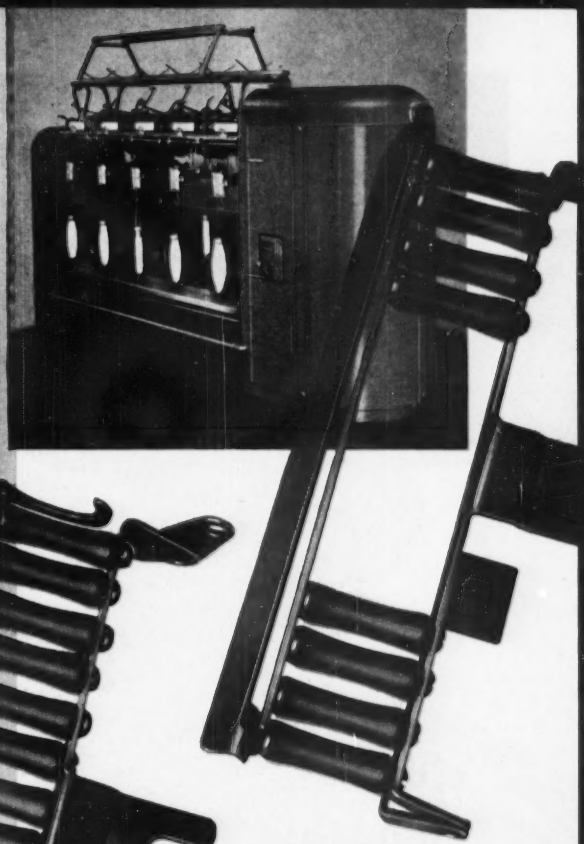
AlSiMag®

CONTROLLED FINISH GUIDES

Years of experience have convinced most manufacturers and processors of synthetic yarns that uniformity of tension is achieved in direct proportion to uniformity of finish of the tension guides. That's why so many textile machinery manufacturers have standardized on AlSiMag controlled finish guides for tension regulating mechanisms. Illustrated are gate tensions of Universal Winding Co. for two of their Redraw and Winding Machines—each employing AlSiMag 193 finger guides.

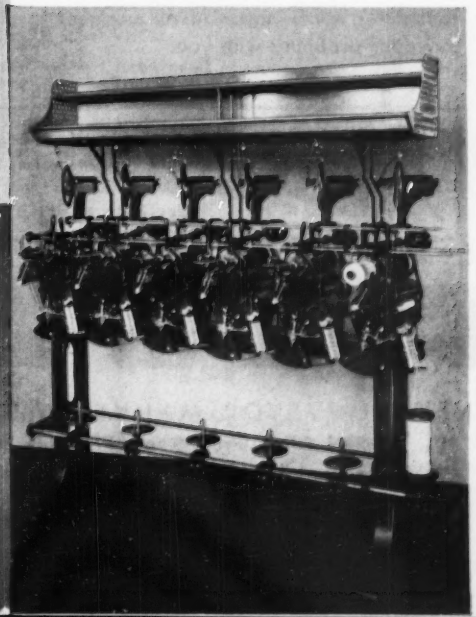
The controlled finish of AlSiMag guides is measured in micro inches, R. M. S., and can be reproduced to specification from lot to lot—year to year. By use of these guides, evenly wound packages of absolutely uniform density become a matter of routine. AlSiMag guides are hard, satin-smooth, long-lived—and never pick up or injure the most delicate yarns.

For perfectly regulated tensions and trouble-free processing, specify AlsiMag controlled finish guides.



(Above) TYPE 50-499A-7X GATE TENSION, used on the Universal Winding Co. Model 200 Redraw (which builds double flanged bobbins fast and accurately from any kind of synthetic filament yarn.) The AlSiMag 193 finger guides, Part No. GE-4558-A, are conductors of electricity and are useful for dissipating static charges.

(Left) TYPE 50-499A-3X GATE TENSION. AlSiMag 193 controlled finish finger guides, Part No. GE-4558-A, are utilized on this mechanism to regulate tensions on Universal's No. 50 Winding Machine (which builds a wide variety of precision wound packages of natural and synthetic yarns and is often described as "the most flexible winder made.")



BOARD YEAR OF CERAMIC LEADERSHIP

AMERICAN LAVA CORPORATION

A Subsidiary of Minnesota Mining and Manufacturing Company

CHATTANOOGA 5, TENNESSEE

SALES ENGINEERS: NORTH AND EAST: Jay S. Gesnell, 471 Broad St., Newark, N. J., Mitchell 2-8159. SOUTHEAST: Joe E. Spearman, American Lava Corporation, Chattanooga 5, Tenn., 5-3411. ALL OTHER AREAS: J. B. Shacklett, American Lava Corporation, Chattanooga 5, Tennessee, 5-3411. CANADIAN REPRESENTATIVE: Ian H. Haldane and Company, Post Office Box 54, London, Ontario, Canada. CONTINENTAL EUROPEAN REPRESENTATIVE: P. C. Hegnauer Luzern, Gerbergasse 6, Luzern, Switzerland

Name Brand Products

ride smoothly on

ALVEY engineered conveyors

The well-known trademarks above belong to a few of the many important textile producers who place their confidence in Alvey Engineered Conveyors.

These mills know how cartons, rolls, bales, folded goods, doff boxes, bobbins and many other textile units are successfully conveyed by Alvey equipment.

Your letter will bring an Alvey engineer to discuss your conveyor problems with you.

Every time you MANhandle a package, you add to the cost and nothing to the value; therefore, put your packages on Alvey Conveyors that are engineered to fit your individual requirements.

ALVEY

ALVEY CONVEYOR MANUFACTURING COMPANY

9306 Olive Street Road, St. Louis 24, Missouri

Branch Offices in Principal Cities

158

Personal NOTES

ABOUT MEN YOU KNOW

Albert H. Levi recently joined Ace Knitting Mills, Inc., as general manager. He was formerly associated with Levi & Rottenberg.

Mrs. Sara Davenport was recently elected secretary of the Alabama Cotton Manufacturers Association. Mrs. Davenport, who has been with the organization since 1947, will take over a part of the duties held by executive vice-president Dwight M. Wilhelm who formerly served in both capacities. At the same meeting, the Association was incorporated and the constitution and by-laws streamlined.

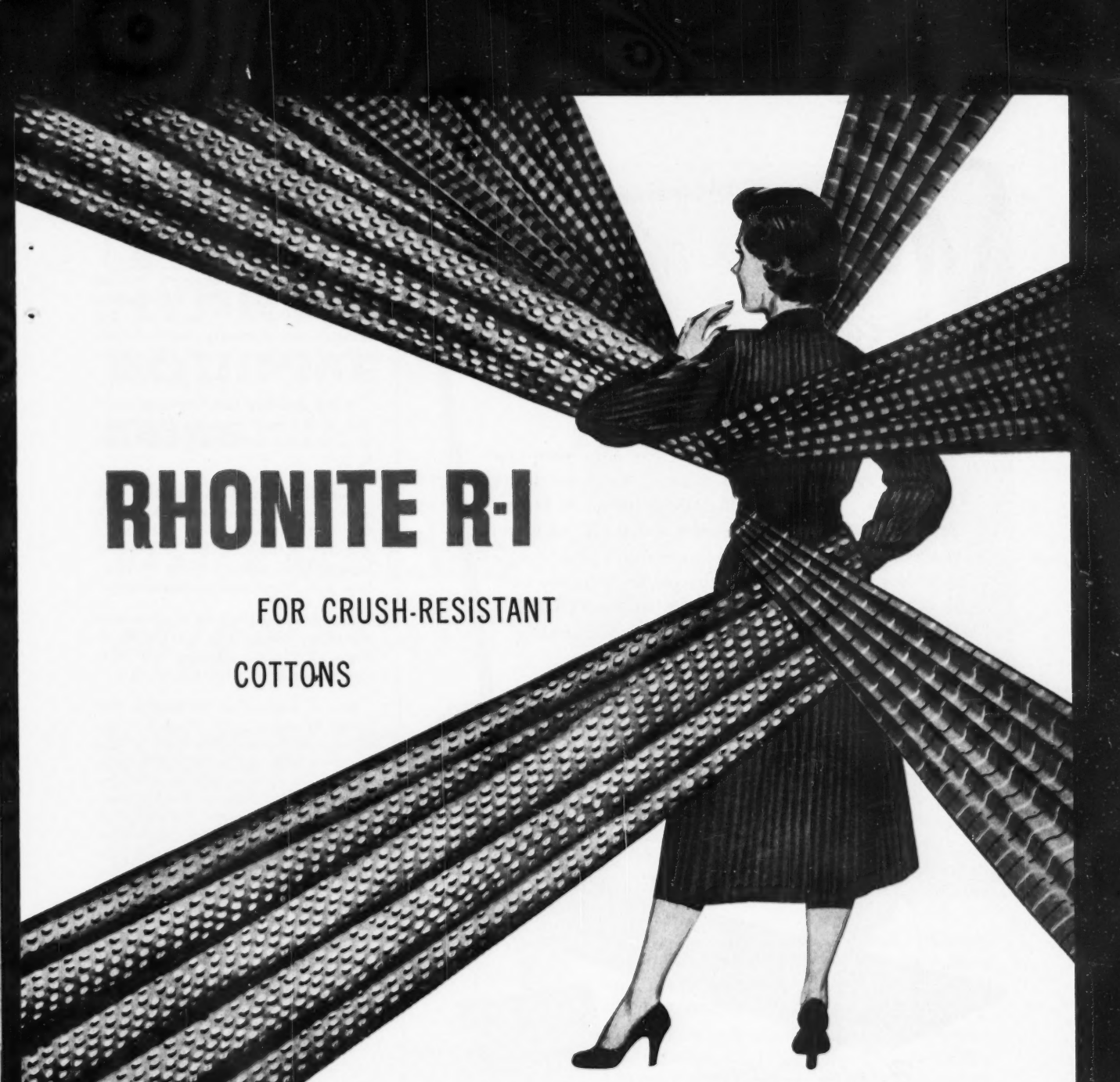
R. Eugene Covington has joined Allendale Mills, Inc., Mount Airy, N. C., as executive vice-president and director. He was formerly vice-president and director of Roanoke (Va.) Mills, Inc.

At a recent meeting of the board of directors of American & Efird Mills, Inc., **T. C. Smotherman** was elected to the office of assistant vice-president and sales manager. He was also elected a member of the board and member of the Executive Committee.

American Woolen Co., Textron Inc., and Robbins Mills, Inc., recently named the following key executives as officers of the jointly-owned sales company, Amerotron, Inc., which was formed by the three companies. **Robert L. Huffines, Jr.**, president; **Burke M. McConnell** and **R. M. Cushman**, executive vice - presidents; **George J. Bienstock, Edmon G. Luke, Albert Otto, Frank Roberts, J. Linzee Weld, Christian A. Wiessner, Frank Fiore; C. C. Griffith, Lowell E. Hawthorne, Murray Kramer, Ernest Miller, Allan Shore, and Lawrence Weiss**, vice-presidents; **George E. MacLellan, Jr.**, treasurer; **Cecil E. Whitney**, secretary; and **Mrs. Rosalie Mencher**, assistant secretary.

George W. Byers is now assistant to the head of the weaving division of American Viscose Corp.'s textile research department. He formerly served as assistant to the head of the woolen and worsted division.

American Woolen Co. has appointed **William Midgley** resident



RHONITE R-I

FOR CRUSH-RESISTANT COTTONS

For cotton dress goods that are permanently crush-resistant, you can depend on RHONITE R-1. This washfast resin imparts to cottons, rayons and blended fabrics a crush-resistance and stability so durable that repeated washings can't dull their crisp good looks.

In plain, calendered or embossed finishes, RHONITE R-1 produces this same resistance to crushing and wrinkling, makes fabrics withstand many launderings and still retain a lasting beauty.

For unusual crush-resistance, it pays to use RHONITE R-1.

Write or call for complete information about RHONITE R-1—one of the quality chemicals for textile finishing made by Rohm & Haas Company.

TEXTILE CHEMICALS

ROHM & HAAS COMPANY

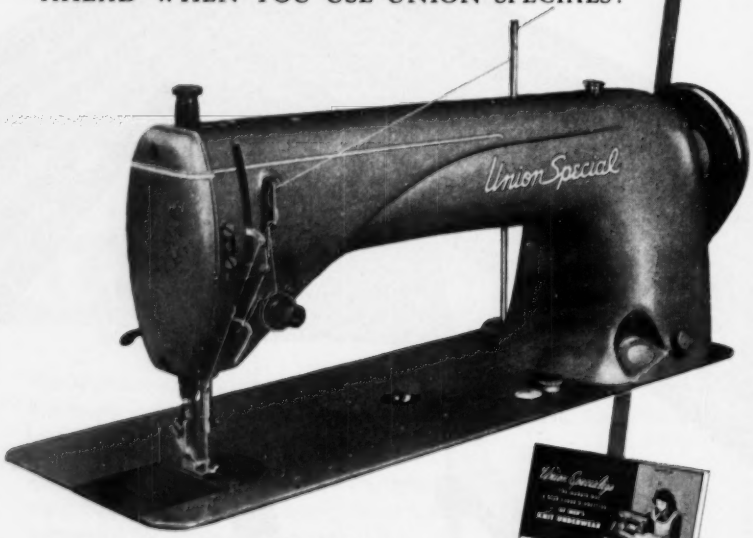
WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

RHONITE is a trademark, Reg. U.S. Pat. Off. and in principal foreign countries.

NOW is the time to equip for PROFITS

Profits can, and will, come your way only when you plan for them . . . work for them . . . equip for them! Replace old, obsolete, inefficient machines now. Plants equipped with modern, high speed Union Specials have an important advantage. Union Special machines are built to do the job faster...better...cheaper, and they stay on the job with minimum time out for repairs. YOU'RE AHEAD WHEN YOU USE UNION SPECIALS!



Helpful Bulletins

Union Special offers product application bulletins covering the manufacture of a number of different types of wearing apparel. Copies are available on request with no obligation. WRITE TODAY.

Bulletin No. 250: "Dress Shirts and Sport Shirts."
Bulletin No. 251: "Workmen's Service Garments."
Bulletin No. 252: "Men's Shorts and Pajamas."
Bulletin No. 253: "Overalls, Coveralls and Work Pants."
Bulletin No. 254: "Men's Knit Underwear."
Bulletin No. 255: "Women's Knit Underwear."
Bulletin No. 256: "Knit Outerwear."
Bulletin No. 258: "Class 61400 Lockstitch Machines."
Bulletin No. 260: "Work Gloves."
Bulletin No. 263: "Men's Clothing Manufacturing."

Union Special® MACHINE COMPANY

407 NORTH FRANKLIN STREET • CHICAGO 10, ILLINOIS

Personal NOTES ABOUT MEN YOU KNOW

manager of the company's Puritan Mills, Plymouth, Mass., succeeding Ernest A. Eckert, resigned. Mr. Midgley was formerly resident manager of the now closed Shawsheen Mills.

Ralph Dunford has retired as overseer of the wool weaving department at Amoskeag Mills, Inc., Manchester, N. H.

Donald Comer, Jr., has been elected executive vice-president of Avondale Mills of Alabama, as well as a member of the executive committee. Mr. Comer is also president of Avondale Mills, Inc., sales organization.

Chairman for the 1955 Southeastern Personnel Conference will be **R. K. Argo,** personnel manager for Alabama Mills, Inc., Birmingham, Ala.

Recent changes at Bachmann Uxbridge Worsted Corp.: **Paul J. Wenzel,** formerly superintendent of the Andrews mill at North Smithfield, R. I., is now superintendent of the Granite mill at Pascoag, R. I. He succeeds **F. L. Kenney,** who is now superintendent of the Uxbridge, Mass., mill, replacing **A. E. Otto,** now in charge of wool manufacturing in the New England mills of American Woolen Co.

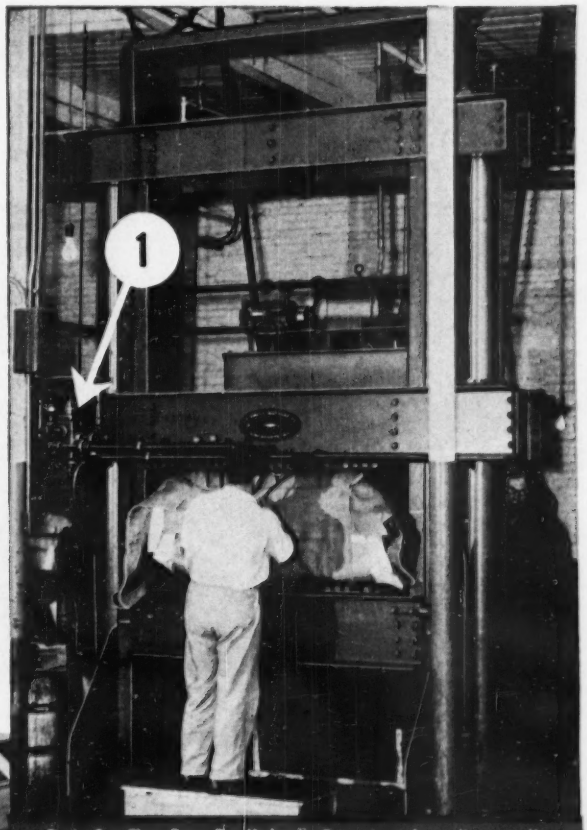
Berkshire Knitting Mills, Reading, Pa., has named **Robert R. Mitchell** controller of the mills, succeeding George Compton, resigned. Mr. Mitchell has been with the company since 1936.

Chairman of the board of Bibb Manufacturing Co., Macon, Ga., **William D. Anderson,** has retired after serving the company for more than half a century. Mr. Anderson has been elected honorary chairman of the board and will continue to serve as a director of the company. **Charles C. Hertwig,** president, has been named to fill the chairmanship along with his present position.

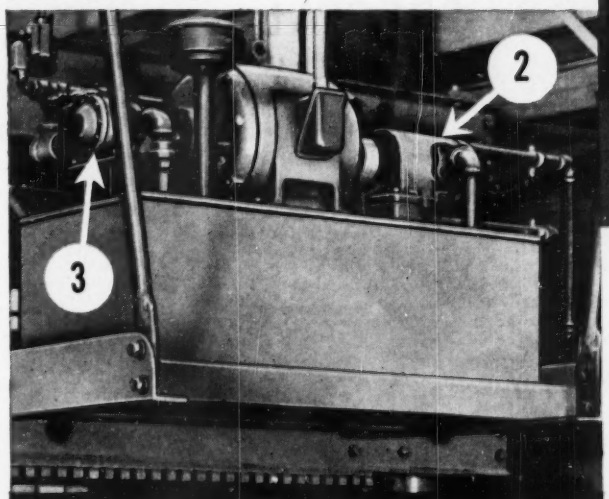
Joseph Marhefka succeeds Joseph Turner as overseer of finishing at Blackstone Mills, Clinton, Mass. Mr. Marhefka was formerly second hand at the mill.

Herbert H. Schell has retired from both the chairmanship of and membership on the board of directors of Sidney Blumenthal & Co., Inc. He

VICKERS®
HYDRAULIC EQUIPMENT
helps produce
BETTER BALES at *LOWER* COST



Beaty One-Floor Draw Bar Hydraulic Presses need no pit, are self-contained, complete more bales per hour, require less electric power, and the bales contain greater yardage of cloth. VICKERS Hydraulic Equipment is used exclusively. Press operation is conveniently controlled by hand lever on VICKERS 4-Way Valve (No. 1).



VICKERS Custom-Built Hydraulic Power Unit was designed and built to meet the particular needs of this press. A double-end motor drives two standard VICKERS Vane Type Pumps (No. 2 a small-volume pump for maximum operating pressure of 2000 psi; No. 3 a large-volume pump for maximum operating pressure of 1000 psi.) Both pumps deliver oil for the exceptionally fast closing of the press; during bale compression at 2000 psi, pump No. 3 is automatically unloaded to reduce power requirement to a minimum.

The advantages of using VICKERS Hydraulic Equipment as illustrated here by the Beaty Press are representative of what has been accomplished on many types of Textile machinery.

In the Textile industry, the use of Vickers Hydraulics is growing rapidly because of its adaptability, efficiency and economy. It offers exceptional advantages in simplification of design, ease of installation, accuracy and flexibility of control, and low maintenance. Automatic overload protection and inherent self-lubrication are additional highly desirable characteristics.

For further information about the benefit of Vickers Hydraulics ask our nearest Sales Application Engineering Office for a copy of new Textile Bulletin 54-66.

VICKERS Incorporated
DIVISION OF THE SPERRY CORPORATION
1554 OAKMAN BLVD. • DETROIT 32, MICH.

Application Engineering Offices:
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ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921

TUBES

FOR EVERY TEXTILE NEED . . .

STANDARD OR SPECIAL

SONOCO produces spiral, convolute, parallel or drawn tubes in sizes from 1/8" to 36" I.D., in any practical length and wall thickness. Available in colors, various surfaces, treated, impregnated, perforated, scored, notched, printed and with crimped or burnished ends.

Over 50 years' experience enables us to help you with any problem that can be solved with a paper tube!

sonoco
SERVES THE WORLD
PAPER CARRIERS
REG. U.S. PAT. OFF.

SONOCO PRODUCTS COMPANY

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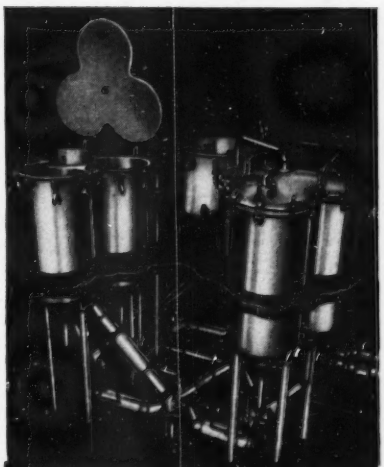
MYSTIC, CONN. LOS ANGELES, CAL. BRANTFORD, ONT. LOWELL, MASS.
PHILADELPHIA, PA. AKRON, IND. GARWOOD, N.J. GRANBY, QUEBEC

MEXICO: Sonoco de México, S. A., Apartado 10239, Mexico, D. F.

DEPENDABLE SOURCE OF SUPPLY

...that's when this absolutely LEVEL DYEING "pays off"!



An exclusive method of cushioning the shock of flow reversal . . . plus our own pump design to obtain high flow at moderate pressure . . . reduce danger of "blown" beams.

Quality in denim, chambray, gingham and similar fabrics, depends greatly upon *uniform color*. This can be achieved only with *yarn* of uniform color . . . yarn without the slightest variation in shade. The Smith-Drum Beam and Package Dyeing Machine is designed to *insure absolutely level dyeing* of a complete set of beams or packages.

Level dyeing is possible *only* when all beams or packages in the same lot are dyed simultaneously in the *same bath!* This Smith-Drum Machine dyes from 2 to 6 beams or yarn carriers under identical conditions of liquor ratio, flow, pressure and temperature . . . with uniform distribution of additions to the dye bath.

If you are interested in truly uniform dyeing results, economy in operation and saving in floor space, it will pay you to discuss this machine with one of our representatives.

SMITH, DRUM & COMPANY

432 W. Allegheny Avenue, Philadelphia 33, Pa.

Southern Sales Representatives:

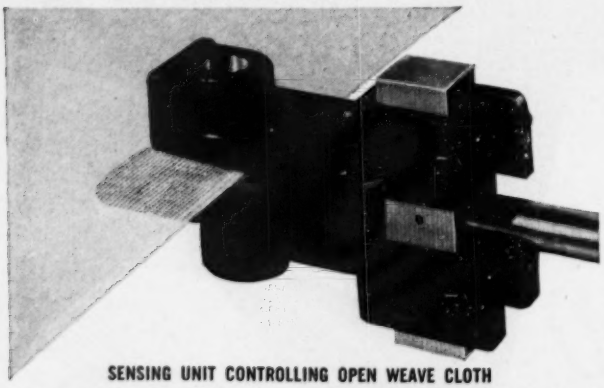
PARROTT & BALLENTINE

610 South Carolina National Bank Building

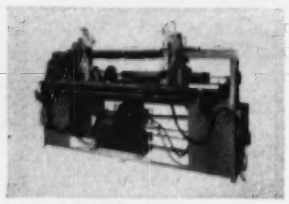
Greenville, South Carolina

ASKANIA
CLOTH GUIDE CONTROL

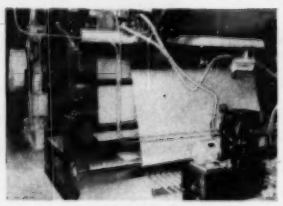
Nothing touches the cloth but a breath of air



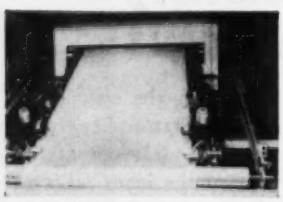
SENSING UNIT CONTROLLING OPEN WEAVE CLOTH



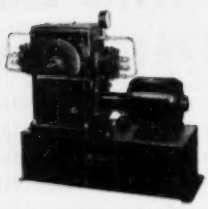
SELVAGE MARKER



PIN TYPE TENTER



CLIP TYPE TENTER



CLOTH GUIDE REGULATOR

The Askania Cloth Guide Control has been tested on hundreds of applications—it's extremely fast, accurate and dependable. It guides fast moving webs with a breath of air. It's an ideal unit to solve your cloth guiding problems on Tenter Frames, Tubing Machines, Folding Machines, Examining Machines, Printing Machines, Slitting Machines, Labeling Machines or Rewinding Machines. Askania Cloth Guide Controls are establishing new standards in the finishing departments of hundreds of Textile Mills. If you have a cloth guiding problem—ask for Bulletin A-161, or call Askania engineers for full details.

ASKANIA REGULATOR COMPANY
260 E. Ontario Street, Chicago, Illinois
Subsidiary of General Precision Equipment Corp.

Personal NOTES ABOUT MEN YOU KNOW

will continue in a consulting capacity. * * * **Randolph Sutton** has been appointed resident manager of the Southern Division, with plants at Rocky Mount, Wilson, and Scotland Neck, N. C. * * * **A. C. Hedgepeth** has been named head of Quality Control, with headquarters at the Caromount Division, Rocky Mount, N. C. **Edward S. Cobb** was recently appointed director of purchasing. He was formerly resident manager of the spinning division in Rhode Island. **George Aspinwall** is now yarn sales manager and wool buyer with offices at Valley Falls, R. I., and **Ernest Chew** is plant manager of the spinning plant there.

Three newly elected vice-presidents of Burlington Mills Corp., Greensboro, N. C., are **Thomas S. Tolar, George T. Gardner,** and **David Gelb.** Mr. Tolar, in charge of all Burlington's hosiery manufacturing operations, makes his headquarters at the hosiery division offices in Greensboro; Mr. Gardner has staff responsibilities for the Brighton, spun spinning and spun weaving divisions at the company's executive offices in Greensboro; and Mr. Gelb has charge of grey goods sales with offices in New York. * * * **W. Ray Rogers,** formerly superintendent of the Ranlo plant of Burlington Mills Corp., is now superintendent of the Robeson and Butler plants of the company, in St. Pauls, N. C. **Fred Daugherty** has succeeded Mr. Rogers in Gastonia, N. C.

Ralph Bullock has joined Drycor Felt Co., Staffordville, Conn., as chief chemist. He formerly served as assistant chief chemist and superintendent of piece dyeing at Botany Mills.

W. J. Spires has been transferred from the Valley Mills plant and promoted to superintendent of grey goods manufacturing at Buck Creek Cotton Mills, Siluria, Ala. **Ed Israel,** formerly night superintendent at Exposition Cotton Mills in Atlanta, Ga., succeeds Mr. Spires as superintendent of Valley Mills, Columbiana, Ala., where **Ernest Johnston** is new night superintendent succeeding **Calvin Collins** who has been transferred to Buck Creek as card room foreman.

Hoyt Thompson has assumed his duties as assistant overseer of the carpet sewing department of Valway

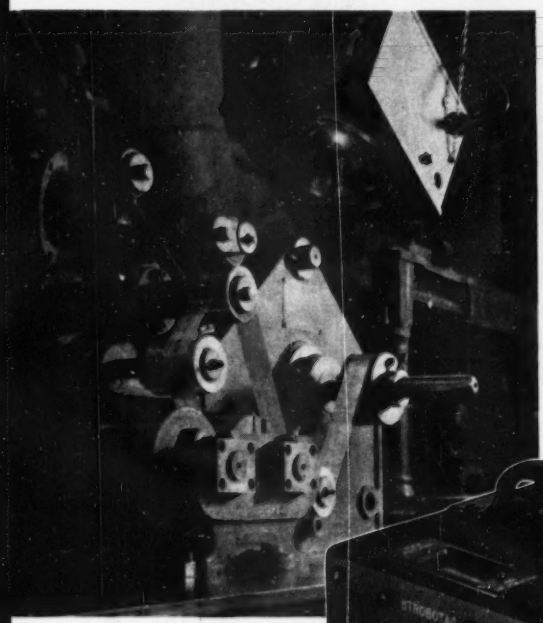
STROBOTAC®

. . . a *Use* for One in Every Plant

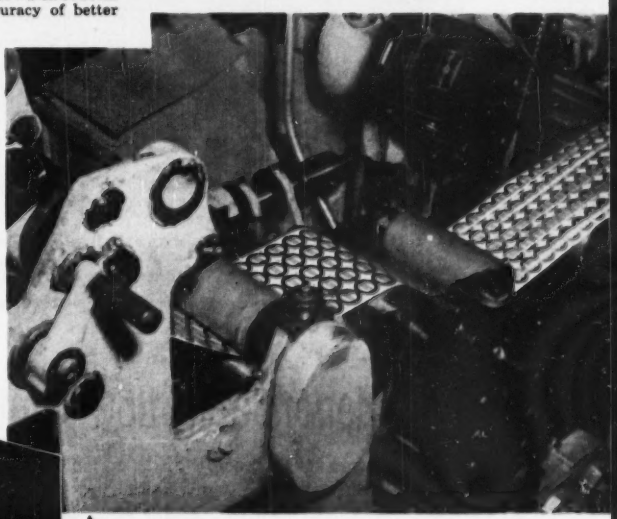
At the **American Thread Company,** the Strobotac is used for a variety of jobs ranging from checking register on high-speed printing presses to measuring speeds of rapidly revolving spindles. This instrument is also useful in designing new products, in production testing, and in maintenance for detecting flaws, worn parts, misalignments, checking operation of shafts, gears and other moving machine parts as they run at full speed.

Photo Courtesy American Thread Co.

↑ Calibrated Strobotac dial indicates the revolutions per minute at which bobbins are spinning with accuracy of better than ±1%.



← Strobotac used on Champlain 4-color 2-inch web, Roto-Gravure Printing Press—paper travels across roll at speed of 175 feet per minute. A simple knob control adjusts the Strobotac flashing rate to synchronize with the rate at which the labels come by—the moving strip then appears to "stand still" permitting the machine operator to actually see the registration on the printed sheet.



↑ Strobotac checks registration of 4-color press with 8-inch web

STROBOTAC® is a truly versatile tool. There's a use for one in every plant . . . in many plants, every department has a need for one.

This stroboscopic light source measures speed and "stops" motion from 60 to 100,000 rpm . . . is direct reading from 60 to 14,400 rpm . . . can be operated by inexperienced personnel . . . plugs directly into 115-volt lines . . . costs only $150.

WE SELL DIRECT—Prices are net, FOB Cambridge or West Concord, Mass.

GR®

GENERAL RADIO Company 275 Massachusetts Ave. Cambridge 39, Mass.

Write for the STROBOSCOPE Bulletin

"You see Powell Valves everywhere. Naturally, since . . .

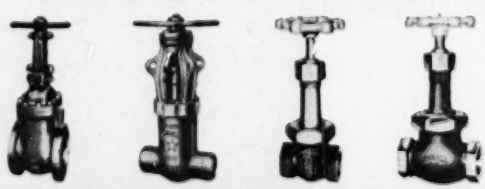
. . . engineers specify Powell Valves because they're dependable and economical. Engineers also know Powell has a *complete line* of valves."

FAMOUS
for dependable flow control

Powell Valves have a record of dependable flow control since 1846. And Powell can supply just the valve you need—for Powell probably makes more kinds of valves and has solved more valve problems than any other organization in the world.

Available through distributors in principal cities. Made ⅛" to 30" and for 125 pounds to 2500 pounds W.S.P. Bronze, iron, steel and corrosion resistant metals and alloys. On problems, write direct to The Wm. Powell Company, Cincinnati 22, Ohio.

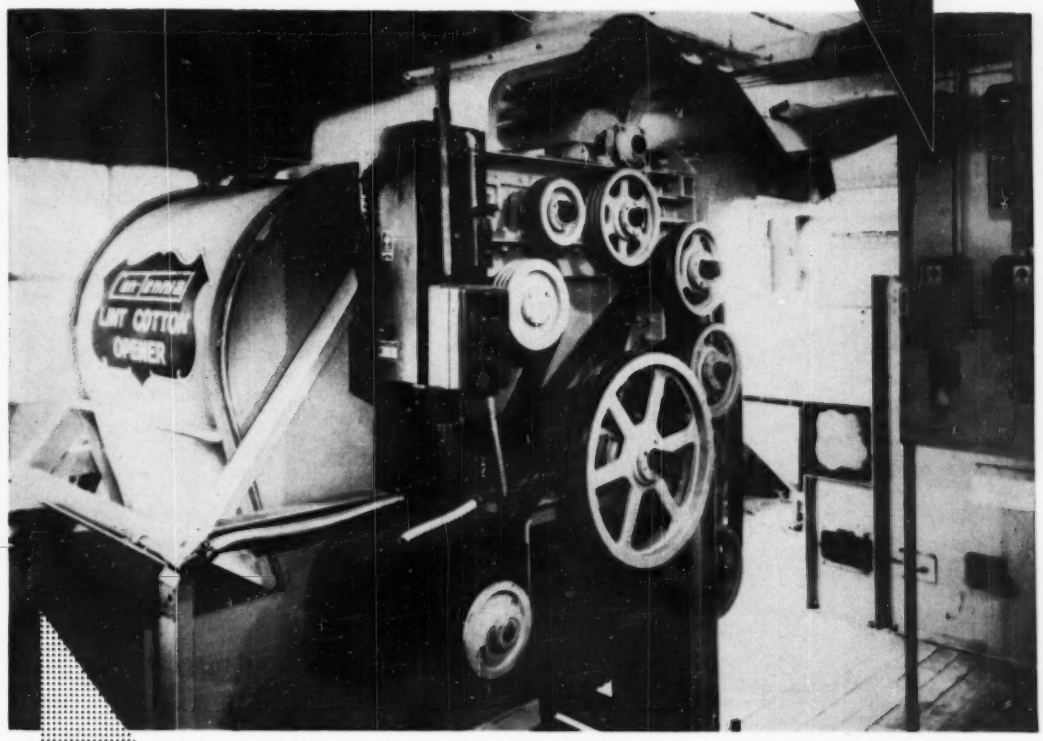
CONTROLS FOR THE LIFE LINES OF INDUSTRY



Powell Valves

108th year

CEN-TENNIAL IN ACTION AT WEST BOYLSTON...



CEN-TENNIAL TEXTILE FIBER OPENER!

West Boylston Manufacturing Company, Montgomery, Alabama, manufacturers of quality yarns, is another mill which has installed CEN-TENNIAL TEXTILE FIBER OPENERS.

Always an organization with an eye toward more efficient operation, the management at West Boylston installed CEN-TENNIAL OPENERS as a means of materially reducing fiber waste and improving quality of yarn.

West Boylston has equipped all of their opening lines with the CEN-TENNIAL OPENER as a result of the efficiency of the initial installation.

The CEN-TENNIAL OPENER can save waste and save dollars for you, too, no matter what system your mill is running. It opens, cleans and blends cotton, wool and synthetics. Inquire for further information today, using the postage-paid reply card on page 201.

CEN-TENNIAL
COTTON GIN COMPANY

Columbus, Georgia

Ciba

A GREAT NAME

none

FOR THE BEST

VAT DYES

The name **CIBA** is associated indelibly with progress in the production of faster dyes.

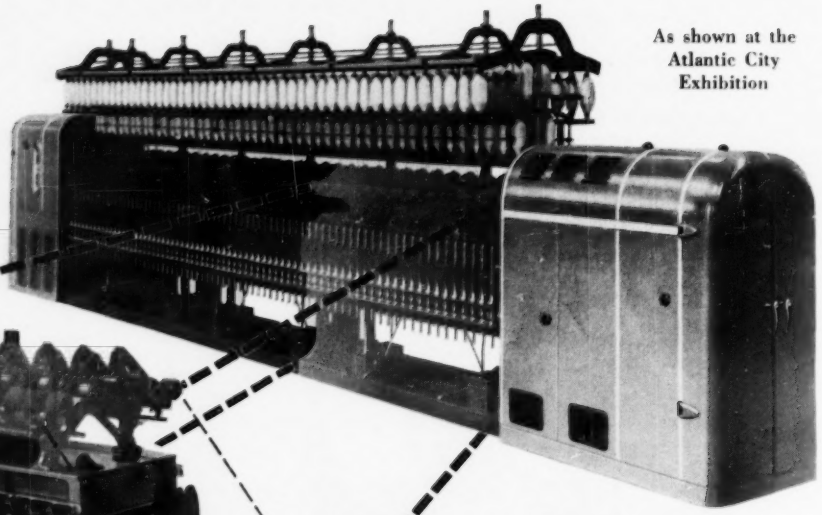
Such well-renowned names as **CIBA, CIBANONE, CHLORANTINE, COPRANTINE, NEOLAN** and **CIBALAN** are landmarks on the path of achievement extending from the turn of the century when **CIBA** played a leading part in the discovery and manufacture of some of the most important vat dyes derived from anthraquinone.

CIBANONE—"a great name for the best" vat dyes—has gained new eminence with the construction of **CIBA'S** fine modern plant at Toms River, New Jersey—the largest dye plant established in the U. S. A. for a quarter century. This magnificent modern installation will follow the **CIBA** tradition by catering to the ever-increasing demand for faster dyes—vat dyes of distinguished quality worthy of their famous name.

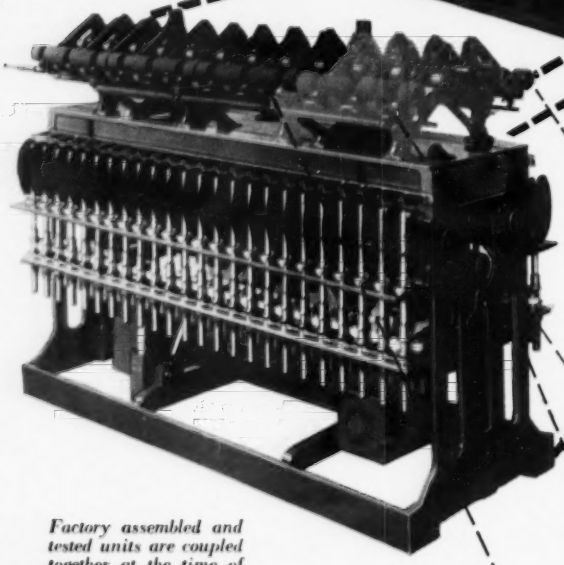
Ciba, Cibanone, Chlorantine, Coprantine, Neolan and Cibalan are Reg. U. S. Pat. Off.

CIBA *pioneers in the production of faster dyes.*

PLATT UNIT CONSTRUCTION ***lowers cost, simplifies maintenance, speeds shipping, halves erection time***



As shown at the Atlantic City Exhibition



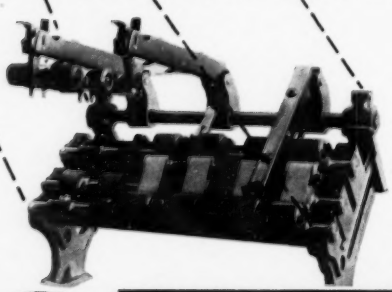
Factory assembled and tested units are coupled together at the time of erection

NEW PLATT M-2

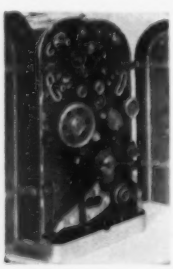
HIGH DRAFT RING SPINNING FRAME

FEATURES IMPROVED QUALITY, LESS END BREAKAGE, GREATER SPEED AND SEMI-AUTOMATIC DOFFING

The M-2 cotton system frame standardizes spinning factors to obtain an even yarn tension throughout the full build of the bobbin. Gauges of 2½", 3" and 4" are provided for rings of 1¾" to 3" diameter, with lifts from 5" to 9".



THE NEW PLATT TOP APRON drafting system is neat, clean and uncomplicated. It is highly flexible with only minor adjustments. Yarn spun with a draft of up to 50 is equal in strength and regularity with yarn spun with lower drafts. A short apron, working over a large second line bottom roller, holds the fibers in a definite path as they are not subjected to the undulations of two aprons. The Pneumafil System is built into each unit.



HEADSTOCK houses the twist and draft gearing, all mechanical and electrical controls and the builder motion that is self-acting, not requiring resetting on the completion of the packages.

PLATT BROS.

SALES LTD. OLDHAM, ENGLAND

a. h.

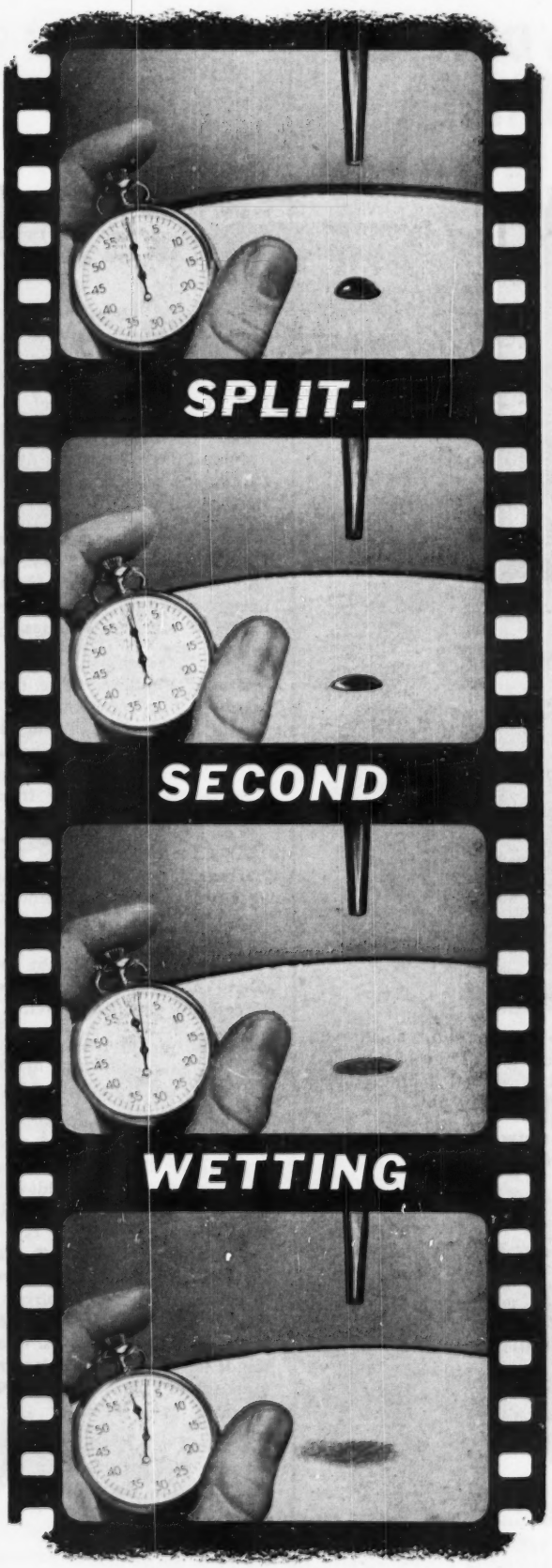
Atkinson, Haserick & Co.

TEXTILE MACHINERY AGENTS & ENGINEERS SINCE 1823

211 CONGRESS ST., BOSTON 6, MASS.

1639 W. MOREHEAD ST., CHARLOTTE 2, N. C.

DOFFING IS SEMI-AUTOMATIC as individual motors automatically set-up the frame for doffing. The operator just replaces the full package with an empty bobbin or tube. How many man-hours could this conserve in your mill?



NOPCOWET® 86-A

is highly effective as a wetting agent

...as a rewetting agent, too!

If you haven't tried Nopcowet 86-A, it's high time you did. You'll find this new concentrated Nopco product exceptional as a wetting and penetrating agent with either neutral or dilute acid and alkaline solutions.

You'll find it exceptionally fast. You'll find it economical. You'll soon say it's unequaled for wetting out cotton piece and knit goods. It is also used in stock, package, and pad dyeing operations. Using the same product as both wetting and rewetting agent will save you much fuss and bother—and money.

Write today for testing samples.

Nopco Chemical Company,
472 Fuller St., Harrison, N. J.

NOPCO

PLANTS: Harrison, N. J.
Cedartown, Ga. • Richmond, Calif

Even the Screws are Different in the LESTERSHIRE WOOD BARREL BOBBIN

with replaceable fibre heads

One of the reasons why Lestershire wood barrel bobbins give extremely long service under continuous hard use is that the fibre heads can be removed and replaced *without damage to barrels or heads.* This is made possible by our new patented screws.

The patented screws used to fasten the heads to the barrel are so shaped that their threads do not disturb the grain of the wood. They can be removed and put back in place many times when it is desired to change the heads for any reason, and always give maximum holding power.

Four of these "anchor thread" screws hold three times better than eight drive nails.

The barrels of *Lestershire* wood barrel Bobbins are of hard close-grain maple. They will not dent, chip, or crush.

The heads are of hard vulcanized fibre—most durable material for the purpose.

NATIONAL VULCANIZED FIBRE CO.

Lestershire Spool Division

140 Baldwin Street — Johnson City, N. Y.

BRANCH OFFICES AND TECHNICAL SERVICES:

National Vulcanized Fibre Co.

Baltimore, Md. — Chicago, Ill. — Cincinnati, Ohio — Cleveland, Ohio — Detroit, Mich. — Los Angeles, Cal. — Milwaukee, Wis. — New York, N. Y. — Philadelphia, Pa. — Providence, R. I. — Pittsburgh, Pa. — Rochester, N. Y. — St. Louis, Mo. — San Francisco, Cal. — Seattle, Wash. — Waltham, Mass.

Greenville Textile Supply Co.
Greenville, S. C.

Odell Mill Supply Co.
Greensboro, N. C.

National Fibre Co. of Canada, Ltd.
Toronto and Montreal

Personal NOTES ABOUT MEN YOU KNOW

Plant of Callaway Mills, LaGrange, Ga. **Benjamin M. Pugh** has been promoted to second hand in the spooler winding, warper, and twisting department of the Manchester (Ga.) Plant.

The newly elected president of the Canvas Awning Institute is **Philip Siener,** president of Cooley Inc., Pawtucket, R. I., succeeding Bernard Tholen, vice-president of McCampbell & Co., New York.

John Sparks, carding overseer at Clinton (S. C.) Cotton Mills, has retired.

The William Carter Company, Needham Heights, Mass., recently appointed **Roland Reilly** superintendent of the Springfield, Mass., mill. Mr. Reilly succeeds **Thomas J. Martin,** retired.

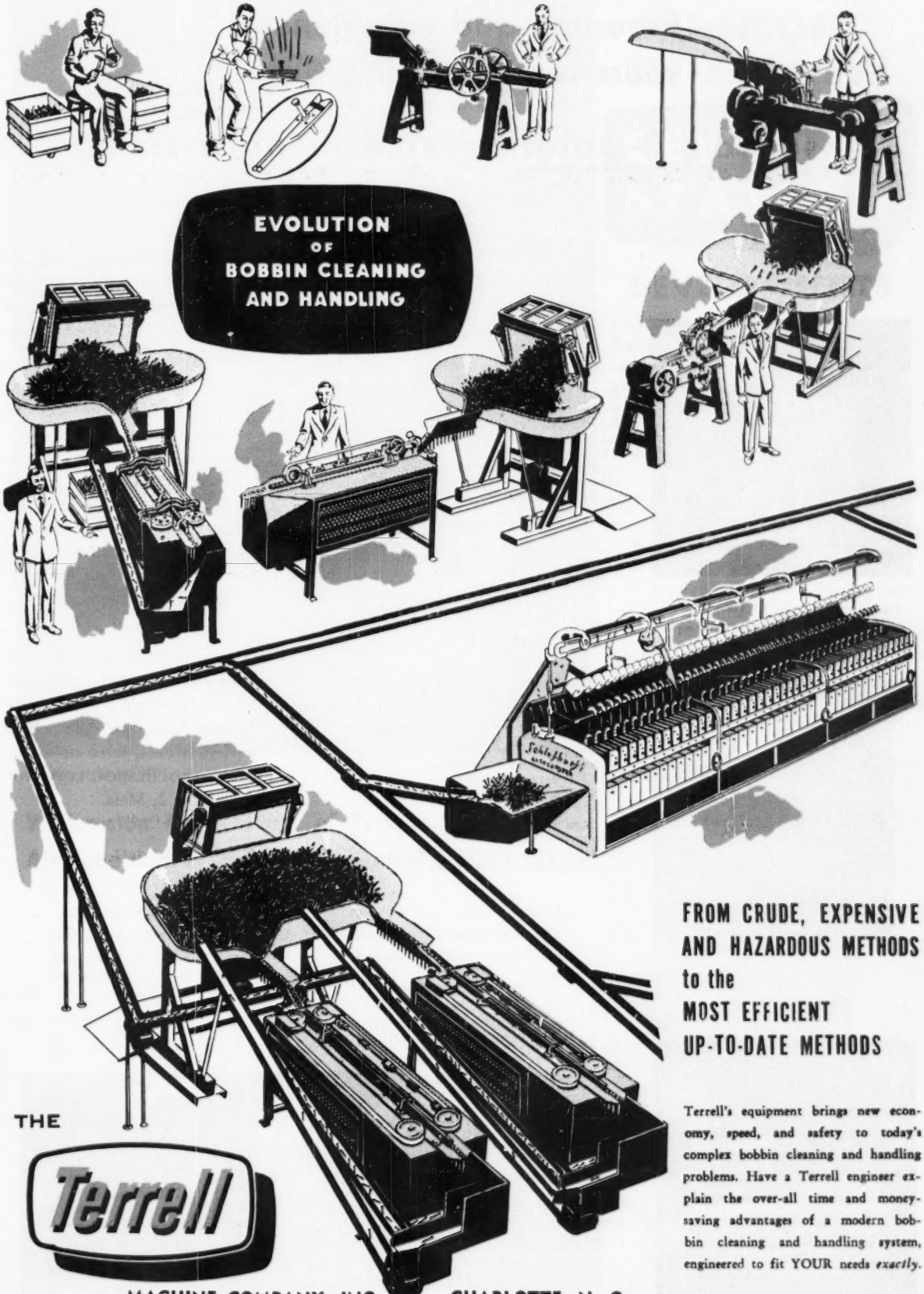
Buford Robbins is the newly appointed superintendent of Clover (S. C.) Spinning Mill, and **Jim Parrish,** formerly acting superintendent, has been named plant engineer. Mr. Robbins came to Clover from Carolina Mills at Huntersville, N. C.

At a recent meeting of the board, **Herbert J. Smith, Jr.,** general manager, was elected president of Charlottesville (Va.) Mills, succeeding W. E. Buford, deceased. Three new directors are: **W. Wright Harrison, Alex Von Thelen,** and **Llewellyn P. Haden,** all of Charlottesville.

Wilbur N. Murray was recently promoted to assistant manager of Coates & Clark, Inc.'s two yarn mills.

Newly elected officers of the Combed Yarn Spinners Association are: **Alfred S. Robinson,** Rex Mills, Inc., president; **Don Maddox,** Textiles Inc., first vice-president; **R. Dave Hall,** Climax Spinning Co., second vice-president; and **M. T. Cameron,** A. M. Smyre Mfg. Co., treasurer. New directors with terms expiring in 1957 are: **A. W. Bell,** American & Efird Mills, Inc.; **Eugene Cross,** Cross Cotton Mills Co.; **Burton Frierson,** Dixie Mercerizing Co.; and **C. K. Torrence,** Superior Yarn Mills.

Because of ill health, **B. P. (Bill) Barnes,** vice-president in charge of finishing for the Dixie Mercerizing Co., Chattanooga, Tenn., has gone into partial retirement. He will continue to serve Dixie as a consultant and



FROM CRUDE, EXPENSIVE AND HAZARDOUS METHODS to the MOST EFFICIENT UP-TO-DATE METHODS

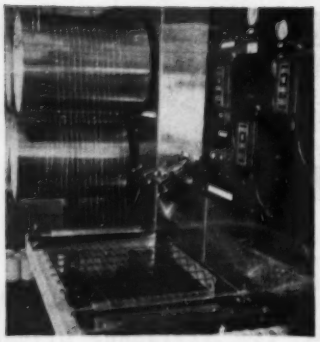
Terrell's equipment brings new economy, speed, and safety to today's complex bobbin cleaning and handling problems. Have a Terrell engineer explain the over-all time and money-saving advantages of a modern bobbin cleaning and handling system, engineered to fit YOUR needs *exactly*.

THE **Terrell** MACHINE COMPANY, INC. CHARLOTTE, N. C.

Research and experience... yours for the asking with

Monsanto's 3-point service in warp sizing

1. *Monsanto's comprehensive line of warp sizes* includes Stymer* LF for loom-finished acetates, such as this taffeta which won't water-spot; Stymer R for newest synthetic fibers; and Stymer S for rayon and synthetics.



2. *Unique development and evaluation facilities,* such as this Monsanto-planned slasher, reproduce modern mill conditions in the laboratory. They permit testing of synthetic resins as warp sizes under realistic circumstances.

3. *Monsanto's experienced personnel,* both in the laboratory and in the field, bring years of practical experience to your problems. They have pioneered many basic developments in the textile industry.

You're invited to take full advantage of Monsanto's 3-Point Service, combining the latest in warp size technology with years of field experience.

Monsanto's Service is based on a comprehensive line of warp sizes, developed and tested under mill conditions by the use of such unique equipment as the slasher shown here. It includes the advice of trained Monsanto personnel, both in the field and in the laboratory.

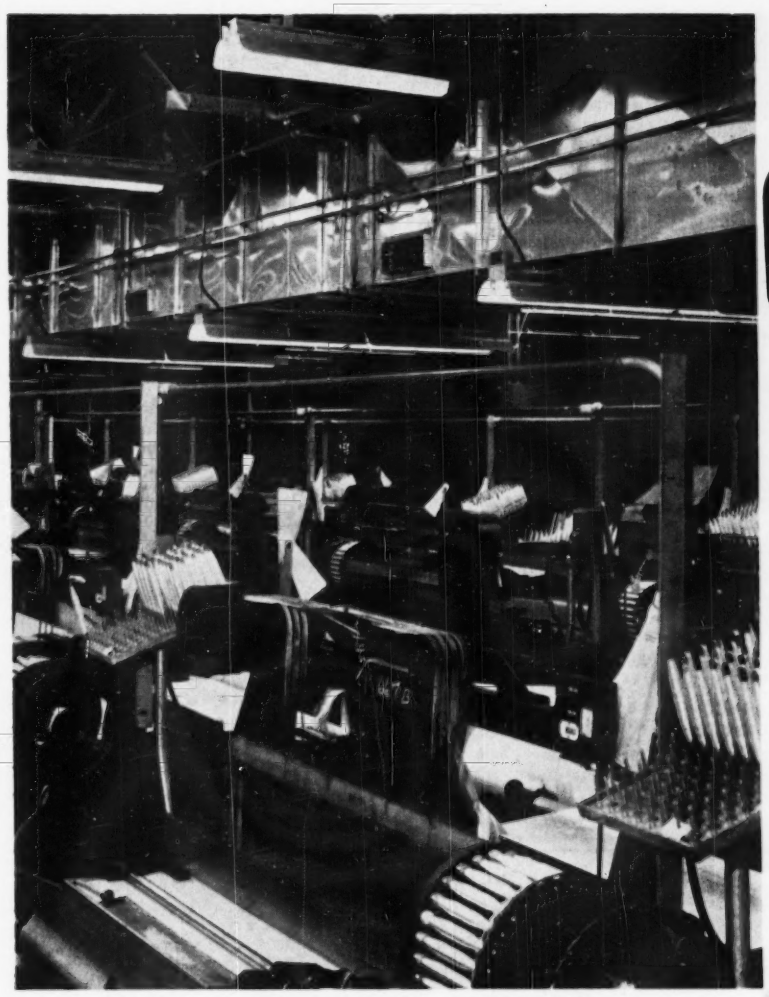
For complete information on Monsanto's line of warp sizes . . . and the help of our experienced technical and sales people . . . just call, wire or write

MONSANTO CHEMICAL COMPANY
Springfield 2, Mass.

*Stymer: Reg. U. S. Pat. Off.

MONSANTO

SERVING INDUSTRY . . . WHICH SERVES MANKIND



ONE OF THE TOP 100*

Williamston Rayon Plant of Textron Southern, Inc.
Air Conditioned by Bahnson Central Station System

Illustrated booklet explains why this and other leading mills are now enjoying peak efficiency and greater economy with air conditioning provided by Bahnson Central Station Systems. Ask for Bulletin 22A.

BAHNSON OFFERS *NEW* CENTRAL STATION DEVELOPMENTS

Engineered to your specific needs, Bahnson Central Station Systems are completely adaptable to your air conditioning requirements . . . offer you these outstanding advantages:

- **Three types of spray systems—for greater design flexibility**
- **New modulating washers—for lowest operating costs**
- **New hinged eliminators—for easier maintenance**
- **Improved Type ESC-2 Atomizers—for better supplementary evaporation**

Plus: **design, manufacture and installation guaranteed by Bahnson's 40 years' leadership in textile air conditioning.**

* **91 OF THE TOP 100**

Of the 100 top textile manufacturing firms in the nation, 91 are users of Bahnson equipment . . . a record of preference that is high testimony to Bahnson engineering skill.

Bahnson
COMPANY
WINSTON-SALEM, N. C.
AIR CONDITIONING • HUMIDIFICATION • CLEANING

Personal NOTES ABOUT MEN YOU KNOW

will be available for assignment to specific projects as the need arises.

Paul E. Auman has been named superintendent of Deery Damask, Inc., Gaffney, S. C. He was previously with Crompton & Knowles Loom Works.

New director of Ecole des Textiles de Saint-Hyacinthe, Quebec, is **George Moore,** who had been acting director during the illness of the late Stephen F. Toupin.

At the annual meeting of The Textile Education Foundation, Inc., **John F. Fowler,** vice-president of E-Z Mills, Cartersville, Ga., was elected president, succeeding George H. Hightower. Other officers named were: **A. B. Edge, Jr.,** Callaway Mills Co., vice-president; **B. W. Whorton,** Dixie Mills, treasurer; and **T. M. Forbes,** executive vice-president of the Cotton Manufacturers Association of Georgia, was re-elected secretary. Directors elected for five-year terms were: **Henry M. Tichenor,** Walton Cotton Mills; **B. E. Willingham, Jr.,** Willingham Cotton Mills; **W. C. Vereen, Jr.,** Moultrie Cotton Mills; **John L. Hutcheson, Jr.,** Burlington Mills, Peerless Division; and **Hansford Sams,** Scottdale Mills.

The Fiber Society, Inc., has chosen **Dr. Walter J. Hamburger,** director and treasurer of Fabric Research Laboratories, Inc., Boston, Mass., president for 1954-1955. Dr. Hamburger succeeds Julian S. Jacobs of the Textile Research Institute, New York. Other officers elected are: **Giles E. Hopkins,** technical director, Wool Bureau, Inc., vice-president; **Dr. Hugh M. Brown,** dean of the Clemson College School of Textiles, treasurer, succeeding **S. Jack Davis,** who becomes one of two new members of the governing council, along with **T. L. W. Bailey, Jr.,** Institute of Textile Technology, Charlottesville, Va. Both will serve three years.

John Warneke, formerly general manager of Faulkner & Colony Mfg. Co., Keene, N. H., is now superintendent of woolen manufacturing and finishing at the Lawrence, Mass., plant of Pacific Mills.

E. W. Medbery, Walter B. Guinan and **Frederic W. Hoit** have been named vice-presidents of Fieldcrest Mills, Inc. Mr. Medbery, who is located in Spray, N. C., continues as production manager of the company's mills in N. C. and Va., and Mr. Guinan continues in the New York office in charge of sales for the Karastan rug division. Mr. Hoit, coming from Lenox, Inc., of Trenton, N. J., succeeds G. Lawson Ivie, retired, and is in charge of domestics sales with headquarters in New York.

Jewett T. Flagg, president and director of Flagg-Utica Corp., New York, and a director of American Woolen Co., has been named president of Amwool Financial Corp., and a director of that company. The corporation is engaged in general textile financing and factoring, and also is servicing the recently authorized sales company, Amerotron, which is jointly-owned by American Woolen Co., Textron Inc., and Robbins Mills, Inc.

The directors of Franklin Process Co., Providence, R. I., have elected **Frayser Jones** of New York a director, and **James K. Edwards,** secretary. **Albro N. Dana,** treasurer and former secretary, has been elected vice-presi-

RESILIENCY AND STRENGTH . . .
are prominent properties of Textile Spring-Beard Needles and result from Textile's special steel formula and special tempering. In your mill, Textile Spring-Beard Needles, Parts and Leaded Assemblies can mean more profitable knitting time . . . For the finest knitting tools, for precision reconditioning—call on TEXTILE.

Textile
SPRING-BEARD NEEDLES

Wire Products Division
TEXTILE MACHINE WORKS, READING, PENNA.

dent and treasurer. Mr. Jones has also been elected a director of Southern Franklin Process Co., Central Franklin Process Co., and Franklin Process Spinning Mill, Inc. The company has also increased its technical staff by appointing **Kenneth L. Dorman** as technical director, and **George H. Schack** as industrial engineer.

Alfred Kelly, formerly with American Woolen Mills, is now boss dyer at Glen Woolen Mills in Norwich, Conn.

Benjamin G. Heilman, grandson of the founder, has joined Gibbs Underwear Co., Philadelphia, Pa., to take charge of customer relations.

George F. Norman, Jr., has been elected president of Goodall-Sanford, Inc., succeeding **Elmer Ward.** Mr. Norman has been an executive of Burlington Mills Corp. for some time, and since the acquisition of Goodall by Burlington has been managing the Sanford operation. **David Arthur** is now manager of the company's Mill A in Sanford, Me., succeeding Edward Burdett, resigned.

Promotions at P. H. Hanes Knitting Co., Winston-Salem, N. C., are: **Fred P. Couch,** superintendent of knitting, bleaching and dyeing; **David M. Tally, Jr.,** assistant superintendent of knitting, bleaching and dyeing; and **Ralph L. Beard,** superintendent of cutting, garment manufacturing, labeling, packing and shipping.

New overseer of carding at Hayward Woolen Co., East Douglas, Mass., is **Joel McCannon.**

W. R. Spencer, formerly with American Woolen Co., is now master mechanic of Hampton Mills, Easthampton, Mass.

Pratt Ellington is new superintendent of preparation and weaving at Huntsville (Ala.) Mfg. Co. He came to Huntsville from Pacific Mills, Columbia, S. C. * * * Recent promotions to secondhand at Huntsville include **Ross Bledsoe, Charles Coffell, Baxter Evans,** and **Elbert Whitenton.**

F. C. Huyck & Sons, Rensselaer, N. Y., has appointed **Dr. Daniel C. Wicker** assistant director of research in charge of physical research. Dr. Wicker will be concerned with the relationship between the physical properties of felts and their performance, and other physical factors which influence felt life and operation. He was formerly with American Cyanamid Co.'s research laboratories as leader of the synthetic fiber development group.

Paul Neuman has been elected vice-president of Ilona Worsted Mills, Millville, Mass. He has been with the company for the past two years, serving as manager.

George Elbogen of George Elbogen & Co., Inc., has been re-elected president of the International Silk Association (U.S.A.), Inc. **Paolino Gerli** of Gerli & Co., Inc., has been renamed chairman.

Felix R. Hulser, formerly with Cheney Bros. and Goodall-Sanford, has been appointed manager in charge of all production costs, quality control and development work at Joan Plush Mills in Woonsocket, R. I., and Hickory, N. C.

The board of directors of Louisville (Ky.) Textiles, Inc., has elected **Harry Lebensfeld** its chairman, succeeding Arthur Almstedt. Mr. Lebensfeld is president of Industrial Syndicate, Inc., New York investment company.

Succeeding Percy E. Roper, retired, as secretary and treasurer of The Landers Corp., Toledo, Ohio, is **John**

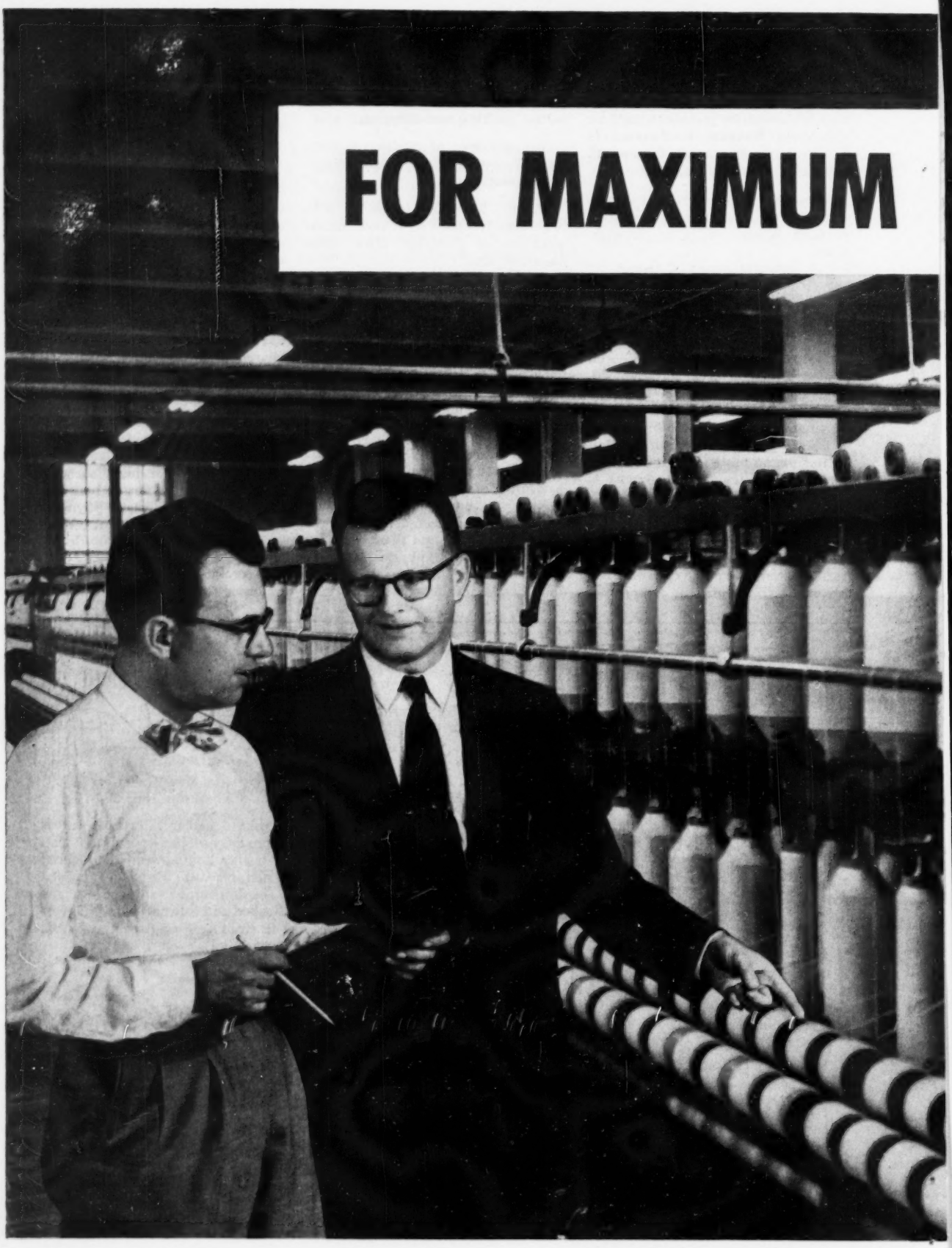
Like mother, like daugther . . . each enjoys wearing fine products of the latch needle . . . especially top-quality knitted-wear as produced by Arrow Latch Needles, Parts and Leaded Assemblies. Textile equips every type machine — circular, flat-bed and Raschel — and delivers from stocks in Reading, Pa., Asheboro, N. C. and Manchester, N. H.

Arrow

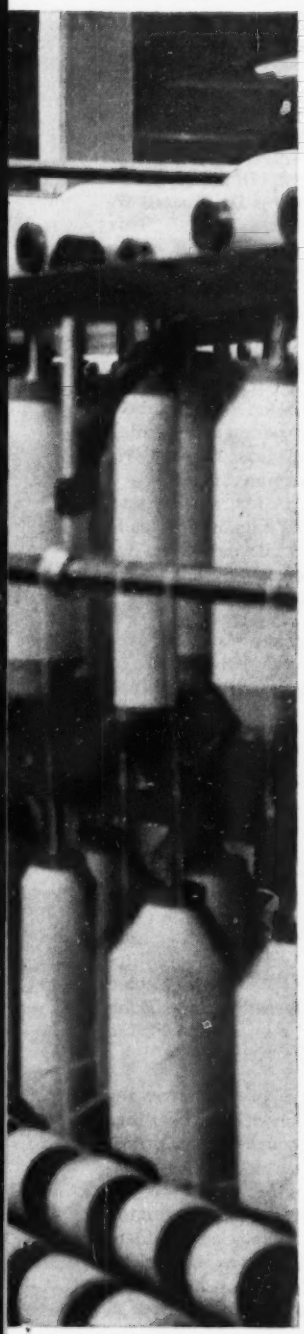
LATCH NEEDLES

Wire Products Division

TEXTILE MACHINE WORKS, READING, PENNA.


FOR MAXIMUM

LAP RESISTANCE . . .



Armstrong J-490 Accotex Cots

Special rubber compound won't pull fibers from stock, reduces broken ends, gives good yarn control.

When spinning synthetics or blends, or any type yarn with revolving clearers, use the cot with "built-in" lap resistance—Armstrong J-490.

This roll cover is made of a special, long-wearing synthetic rubber compound which contains no fillers that roughen its drafting surface. J-490 Cots won't pull fibers from the stock and cause excessive ends down. And special electrolytes added to J-490's composition actually tend to repel broken ends. Today, more and more mills agree that J-490 Accotex® Cots offer them the highest possible degree of lap resistance in a synthetic cot.

J-490 runs clean . . . fibers don't build up on its smooth surface. Oils, dyes, or commonly used textile solvents do not affect this cover.

How does this Accotex Cot wear? Reports from hundreds of mills say that J-490 gives perfect yarn control over long periods of service. All that's ever needed to keep this cot running like new is an occasional rebuffing. And that can mean a real saving for you.

Test J-490 Cots. If you're spinning synthetics or blends—or any type of yarn with revolving clearers—try a few test sides of Armstrong J-490 Accotex Cots. After just a few months' spinning, you'll know how clean running and economical these cots are.

Your Armstrong representative will be glad to help you arrange a test of J-490 Cots. Call him or write direct to Armstrong Cork Company, Industrial Division, 6512 Ivy Street, Lancaster, Penna.

If eyebrowing is a problem on your spinning frames, here's the answer—Armstrong NO-742-S Accotex Cot. This roll cover has a "constant-friction" surface that packs waste well back under the clearers and prevents eyebrows from forming. With normal picking schedules, you'll never see an eyebrow on frames equipped with NO-742-S Cots.

Armstrong ACCOTEX COTS

U.S. ACME
MODERN THROWING EQUIPMENT

SERVICE THAT KEEPS THOSE SPINDLES RUNNING

to help you get better performance and better yarn quality at lower cost...

Keeping up-to-date with changing markets brings many problems to the average throwing mill that tries to "go it alone"!

U. S. Textile has always kept its "welcome mat" in plain sight and takes particular pride in repeating its trade-wide policy of cheerful cooperation in all matters or problems in the field of thrown or twisted yarns.

U. S. Textile has earned an enviable reputation for service ever since its first machines were introduced a quarter century ago. An adequate stock of repair, replacement and modernization parts for throwing machines makes same-day or next-day shipment the usual rule! When new problems arise—whether it be size or type of yarn package, production speeds, new yarn textures, or what have you . . . U. S. Textile engineers and designers are at your service!

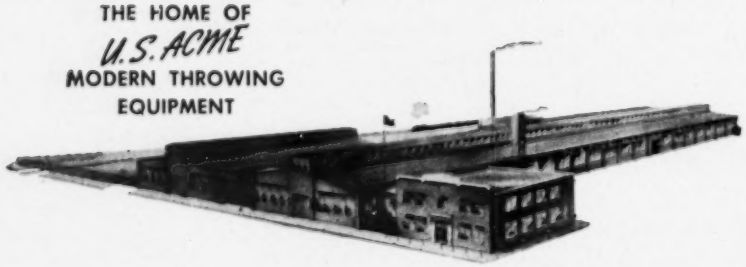
Whether it's new throwing machines to lick the high cost of operating obsolete equipment; modernization of your present machines; or adapting your facilities to new trends . . . write, wire or phone U. S. TEXTILE!

**INVESTIGATE OUR NEW "COMBO TWISTER"
and the flexibility of its three combinations
in one machine!**

OUR SERVICE POLICY LEADS THE FIELD

U. S. TEXTILE MACHINE CO.
SCRANTON 8, PENNA.

THE HOME OF
U.S. ACME
MODERN THROWING
EQUIPMENT



Personal NOTES ABOUT MEN YOU KNOW

C. Siegmann. He is in charge of purchasing, labor relations, and scheduling, in addition to his new duties.

A. & M. Karagheusian, Inc., New York, has appointed **Richard M. Dorian** manager of the company's spinning division at Roselle Park, succeeding his father, the late Dikran A. Diadourian. He has been assistant manager of the mill for eight years.

Lowell Technological Institute is offering what is believed to be the first full four-year degree course in plastics engineering in the country. To head the new Department of Plastics Engineering is **Dr. Russell W. Ehlers** of Chelmsford, Mass. "This new program at Lowell Tech offers a splendid opportunity for the Institute to perform invaluable educational and research services for the fast growing plastics industry," stated Martin J. Lydon, president.

The city commission of Columbus, Ga., unanimously adopted a resolution honoring the late **Edward W. Swift,** board chairman of Muscogee Manufacturing Co. Mr. Swift was cited as "one of the outstanding leaders in the industrial and civic development and expansion of the City of Columbus."

Coy C. Humphrey recently resigned as chairman of the board of directors of Munsingwear, Inc., Minneapolis, Minn., to pursue private interests. President, **George D. McConnell,** has been named chief executive officer and also continues in his present capacity.

Fred Riveglia is now with Miron Mills, Clinton, Mass., in the weave room. He previously had held the same position with Lymansville Co.

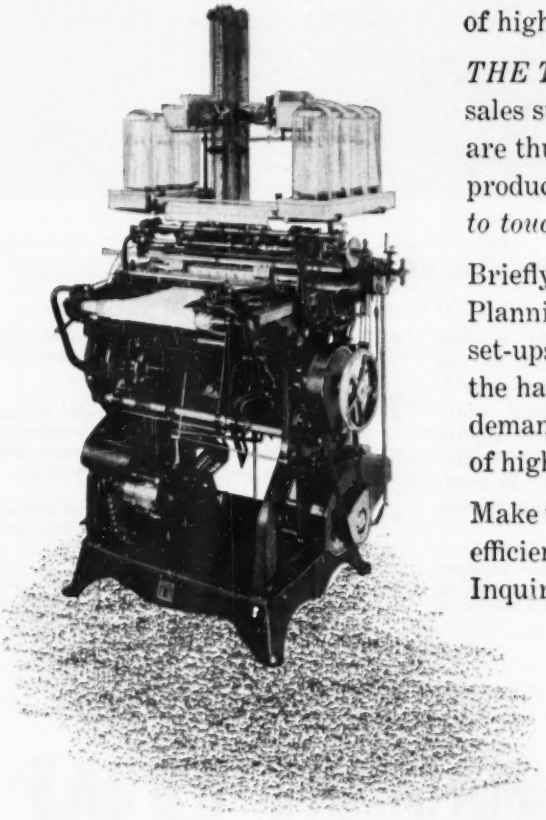
The National Association of Shippers Advisory Boards recently elected **C. L. Denk, Jr.,** president. Mr. Denk is general traffic manager of Fulton Bag & Cotton Mills, Atlanta, Ga.

Recently elected president of the National Federation of Textiles, Inc., is **R. Stewart Kilbourne,** president of William Skinner & Sons. Vice-presidents elected were: **Jackson E. Spears,** vice-president of Burlington Mills; **Edmon G. Luke,** vice-president of Textron Inc.; **Lyman B. Frieze,** president of Duplan Corp., and **Andrew J. Sokol,** vice-president of J.

FOR MERCHANDISERS WHO WANT TO LEAD THE FIELD

YOUR 75 HOSIERY MACHINE IS *Sales Successful!*

The WILDMAN Full Fashioned, 75 gauge machine is sales successful because, thoroughly tested, it produces hosiery with consistent quality, durable, of highest performance.



THE THREE MUSTS in hosiery sales success in today's markets are thus fulfilled — a special product, *beautiful to see, lovely to touch*, consumer accepted.

Briefly, THIS IS IT!
Planning wise, the incorporation of the 75 in production set-ups is moving fast. Smart merchandisers see the handwriting on the wall and know consumers are demanding the highest gauges — tight in stitch, of highest elasticity.

Make them on the WILDMAN 75 — your economical, efficient, automatic in operation machine.
Inquire for complete details today.

WILDMAN

MFG. COMPANY, NORRISTOWN, PA.

MANUFACTURERS OF: FULL FASHIONED HOSIERY MACHINES; CIRCULAR MACHINES FOR OUTERWEAR, UNDERWEAR, SPORTSWEAR, TRIMMINGS; STOP MOTIONS

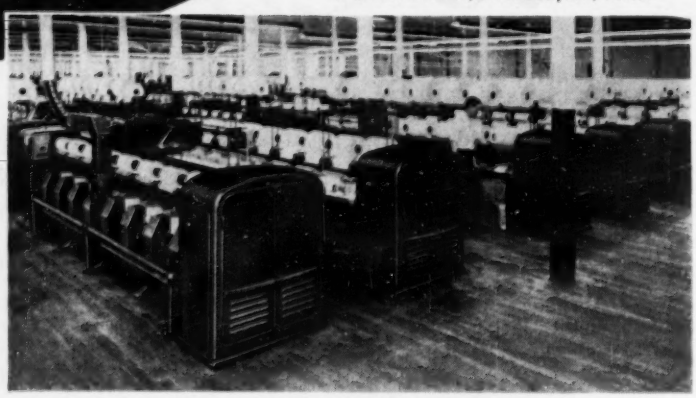
Attention all comber users . . .

for **Highest Production**

for **Unsurpassed Quality**

with **Lowest Cost per Pound**

A large installation of Whitin Model J Combers in operation at Wamsutta Mills, New Bedford, Mass.



You must have Whitin Model J Combers . . .

The most profitable combers in the world for you!

In five short years — in the leading combed yarn mills, not only in the United States but all over the world, Model J Combers have gained widespread acceptance — they now supply more than 2,500,000 spindles. Their performance has earned for them the enviable reputation of being the "finest combers in the world."

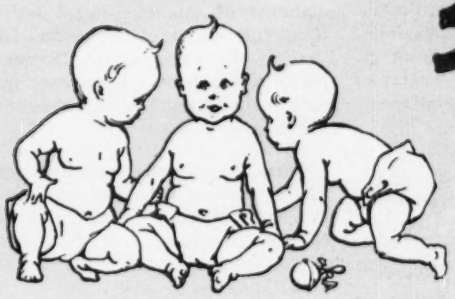
- **They operate at extremely high constant speed — 150 nips per minute — producing up to 35 pounds per hour, with a minimum of vibration.**
- **They deliver unsurpassed sliver quality with high nep removal and extremely accurate waste control.**
- **They are structurally very simple, having fewer parts than any competitive comber — a factor which results in extremely low maintenance cost and ease of operation.**
- **Settings are held for unusually long periods of time. Adjustments are simple, easy and quickly made.**
- **These and many other outstanding features combine to give you the most profitable combing performance in the world.**

Write today for complete details to Dept. F Whitin Machine Works, Whitinsville, Mass.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

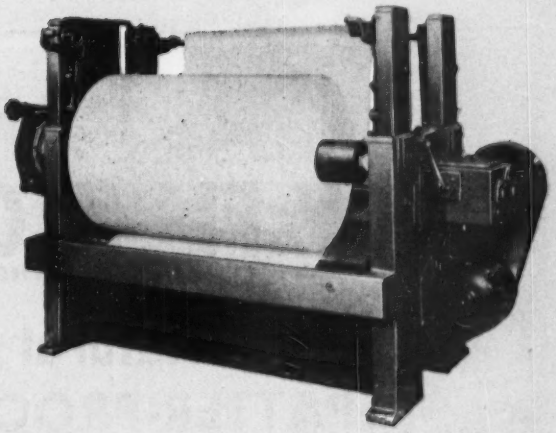


3 NEW ADDITIONS TO THE FAMILY

These three youngsters do a man-sized job delivering higher production and superior quality work with virtually no down time. They're smarter than their elders too, with many automatic features, worthy additions to the Van Vlaanderen family of better machines for modern fabric processing.

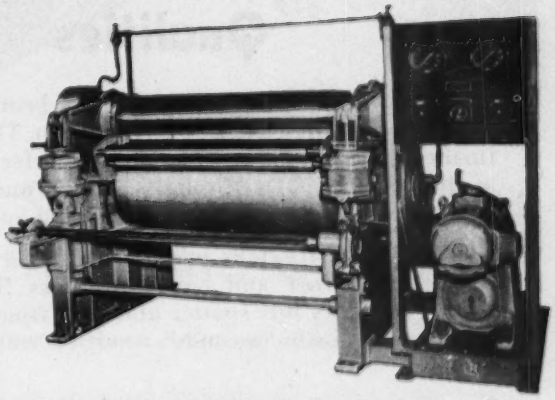
BETTER DYEING

This yearling already heads the class. In a year of practical use in mills, the Dyemaster has consistently given better results on all fabrics from sheers to heavy ducks. Constant cloth tension from practically none for sheers to full for cotton ducks makes the Dyemaster the most versatile American dyeing machine. Even dyeing results are achieved by near constant cloth speed through a special differential transmission. Automatic control makes quality dyeing much less dependent on operators alertness and skill. Starting, reversing, and stopping after predetermined ends can be preset. Tension, free loading, and unloading 34" batch rolls, dampened oscillating expander arrangements and other advantages all contribute to making the Dyemaster the utimate for jig dyeing.



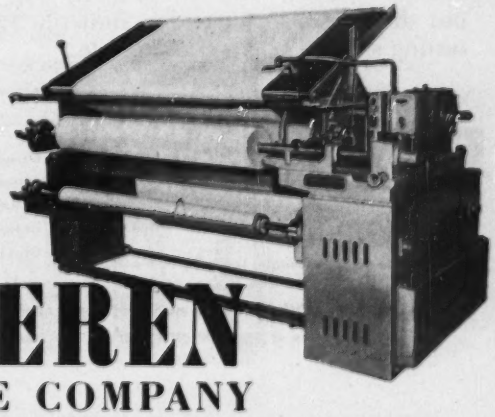
BETTER EMBOSSING

This brand new arrival is a husky that really packs a punch — a heavy frame, 20 Ton Embosser with automatically controlled gas burners giving even higher temperatures required on some fabrics. Air pressure system gives even pressure. It has a newly designed, large, smooth running friction take-up. Rolls operate on spherical ball bearings and are synchronized with herring-bone gears. Roll bearings are lubricated and cooled by a filtered pressure feed oil system. Fool proof top roll arrangement, to prevent dropping on lower roll, prevents roll damage. Range is 6 to 30 y.p.m.



BETTER EXAMINING AND TUBING

This youngster is really twins. It automatically tubes while your operator examines — and tubes better because selvage corrections are made quicker and smoother by the automatic selvage guide control. It works well on all fabrics from light sheers to ducks, plastics, and paper. Operator can do straight examining tube to tube, shell to shell, beam to beam or can tube while inspecting all or part of the roll. Effortless and instantaneous speed changes, from the slowest examining rate to full tubing speed, are governed by a finger-tip controlled variable-speed drive. For rejected yardage (seconds) a supplementary center bar is provided.



VAN VLAANDEREN

VAN VLAANDEREN MACHINE COMPANY

370 Straight Street, • Paterson 3, New Jersey

In the South — Parrott and Ballentine • 610 South Carolina National Bank Building • Greenville, South Carolina

WORLD'S LARGEST MANUFACTURER OF MACHINES FOR PROCESSING MODERN FABRICS

Personal NOTES ABOUT MEN YOU KNOW

P. Stevens & Co. Seven members were elected to the board: **Charles L. Paine,** president of Courtaulds, Inc.; **H. B. Schaeffer,** vice-president of Stonecutter Mills Corp.; **Edward P. Ix,** president of Frank Ix & Sons; **Mr. Frieze; J. Calhoun Harris,** vice-president of Deering, Milliken & Co.; **Mr. Luke** and **Mr. Sokol.**

The cotton buyers' and classers' division of the North Carolina Textile Manufacturers Association, Charlotte, N. C., recently elected **Arthur H. Fuller** of Textiles, Inc., chairman, and **Stiles R. Fifield** of Fieldcrest Mills, as vice-chairman.

Newly elected executive vice-president of Pacific Mills is **J. Neil Dow,** succeeding the late Paul Groover. Prior to this election Mr. Dow was staff assistant to the merchandise vice-president of Sears, Roebuck & Co., on buying and merchandising problems. * * * Recently appointed manager of quality control for the New York office of the Cotton Division of the company is **Charles B. Huggins, Jr.,** formerly assistant manager of the technical department for Pacific.

Bernard Brady has assumed supervision of the Lewiston division of Pepperell Manufacturing Co., Lewiston, Me., replacing J. A. Cloutier. He is now in charge of both the Lewiston and Biddeford divisions.

Four new appointments to the faculty have been made at Philadelphia Textile Institute, Philadelphia, Pa. They are: **William Howard Henry, Jr.,** instructor in English; **Raymond J. Lodise,** instructor of Chemistry; **Donald J. Marva,** instructor in the physics department; and **Horace Neild,** instructor in fabric design and structure.

The treasurer of Puritan Piece Dye Works, Paterson, N. J., **Mrs. E. L. Conlon,** has been appointed to the Small Business Administration's board of field advisors by President Eisenhower.

Newly elected president of the Chattahoochee Valley Alumni Chapter of Phi Psi, textile fraternity, is **Vance Sanders,** overseer of Calumet Plant, Callaway Mills, LaGrange, Ga. Other officers include: **C. G. Bramlett** of Lanett, Ala., vice-president; **Robert L. Altman,** Lanett, secretary; and **Mack Willingham,** of Langdale, Ala., treasurer. * * * The new editor of the *Callaway Beacon* is **Edward L. Parker,** administrative supervisor, Industrial Relations Department. * * * Newly appointed overseer in the Hillside card room is **Fred P. Bass,** formerly assistant overseer.

Succeeding Robert E. Covington as general manager of Roanoke (Va.) Mills, Inc., is **Earl J. Wentz. John M. Tulley** has been made sales manager, a new position.

P. J. Wood, technical director of Royce Chemical Co., Paterson, N. J., has been elected a fellow of the Textile Institute.

Joining The Schwarzenbach Huber Co., New York, N. Y., as manager of the print and novelty fabrics operations is **Al Probstein.** He was formerly vice-president of United Silk Weavers Corp.

Robert McCraney has been appointed general manager of Alexander Smith's new plant in Liberty

(Continued on page 213)

NON-FLUID OIL
TRADE MARK REGISTERED

Has Natural SPATTER-PROOF Qualities

NON-FLUID OIL provides *constant* bearing protection and keeps machines in *steady* operation. This assures still further increase in production of perfect goods. Then again, NON-FLUID OIL lasts 3 to 5 times longer than ordinary oil and saves money on oil and application costs.

NON-FLUID OIL *stays where applied;* it is leak, sling, and spatter-proof and cuts down loss from oil spots. Leaky, ordinary oils spatter and drip from bearings and loom cams. Costly "seconds" result on warps and woven goods.

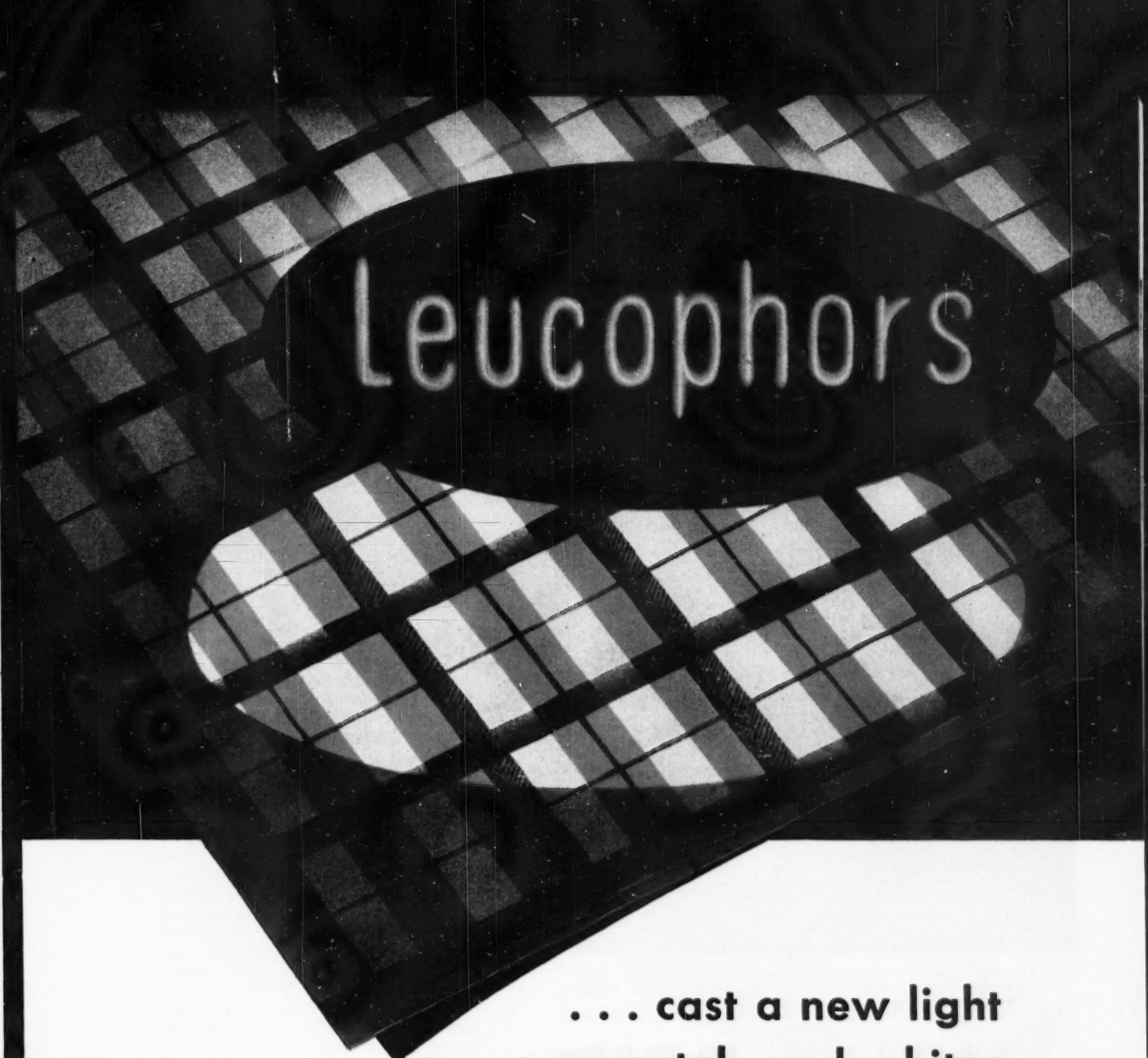
See for yourself why NON-FLUID OIL is preferred in 7 out of 10 mills. Write for Bulletin T20-TI and a free testing sample of A #00000 grade.

NEW YORK & NEW JERSEY LUBRICANT COMPANY
292 MADISON AVE. NEW YORK 17, N. Y.
WORKS NEWARK, N. J.

Southern District Manager: Lewis W. Thomason, Jr. Charlotte, N. C.

WAREHOUSES
Birmingham, Ala. Greenville, S. C.
Atlanta, Ga. Chicago, Ill.
Columbus, Ga. Springfield, Mass.
Charlotte, N. C. Detroit, Mich.
Greensboro, N. C. St. Louis, Mo.
Providence, R. I.

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture.



. . . cast a new light on your pastels and whites

Meet the line of *optical brighteners* that brightens cotton, rayon, wool, nylon, acetate, silk, Orlon, Dynel.

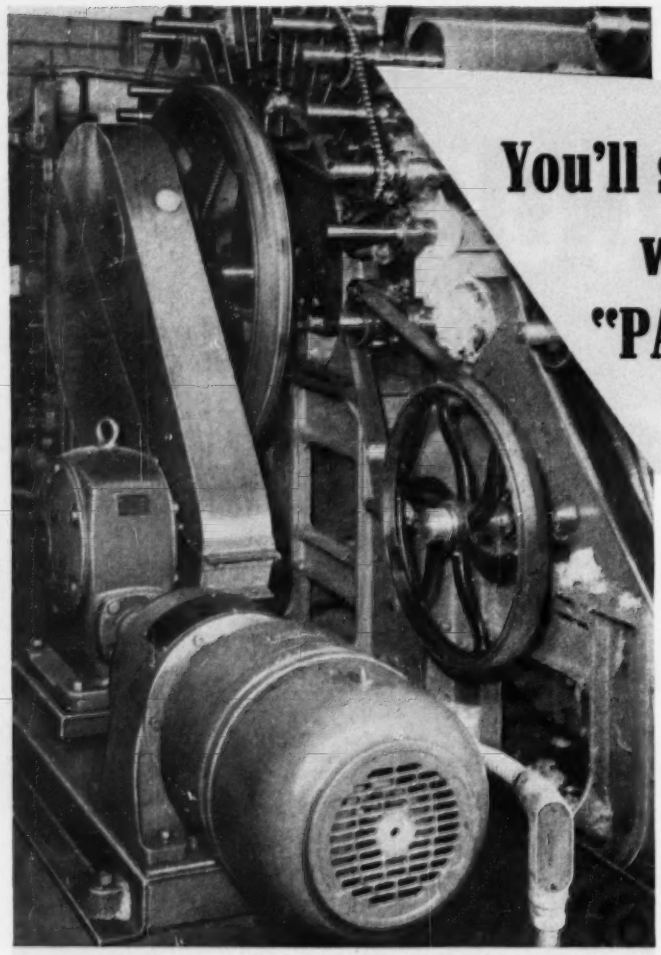
Sandoz Leucophors brighten fabrics by absorbing invisible ultra-violet light and re-emitting it as visible light of longer wave length. Result: whiter whites and brighter brights that just naturally catch the eye.

Get full details on the Leucophor that best meets your current needs from your nearest Sandoz office: Hudson, Mass.; Fairlawn, N.J.; Philadelphia; Charlotte; Cincinnati; Los Angeles; Montreal; Toronto. Sandoz Chemical Works, Inc., 61 Van Dam Street, New York 13, N.Y. 8.4.1

SANDOZ

SANDOZ

THINKS AHEAD WITH TEXTILES



You'll save money 2 ways with LINK-BELT's "PACKAGED" DRIVES

Link-Belt drive for this second breaker and finisher includes 10-hp Electrofluid drive, coupling, worm gear drive, silent chain and welded steel baseplate.

YOU'LL find your power transmission costs are lower in two ways when you use Link-Belt drives. Only Link-Belt offers such a broad range of types and sizes in gearmotor, parallel shaft and worm gear designs . . . in fluid and variable speed drives . . . in chains, couplings, bearings and shafting. That's why Link-Belt can give you an unbiased recommendation—can help you pick the right combination or "package" of equipment.

This unmatched advantage not only simplifies even the most complex problem—it actually cuts your costs. Here's how:

You save on installation! Dimensions of all components are correlated with those of the enclosed drives. There's no alignment problem . . . no need to exchange drawings with other suppliers.

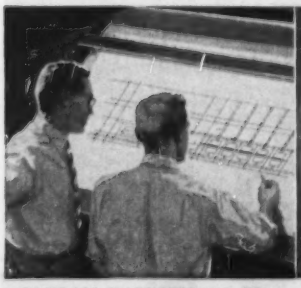
You save on operating costs! Power consumption is lower because overall efficiency is assured. And maintenance costs go down when you rely on quality-built Link-Belt equipment.

Next time you're faced with a power transmission job, let us figure the best combination for your exact requirements. Call the Link-Belt sales office or distributor nearest you for all the facts.

LINK-BELT

POWER TRANSMISSION EQUIPMENT

LINK-BELT COMPANY: Executive Offices, 307 N. Michigan Ave., Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office: New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville, N.S.W.; South Africa, Springs. Representatives Throughout the World. 13,080



OVERALL ENGINEERING. Vast experience of design and field engineering staff integrates all factors, assures expert planning.

ALL COMPONENTS. Link-Belt builds a complete line of power transmission machinery, provides components of top efficiency.

PRE-ASSEMBLY. Sprockets can be mounted in our shops—bearings fully protected. No need to get drawings from other sources.

SINGLE RESPONSIBILITY. When you rely on Link-Belt as a source, we accept responsibility for overall operation.

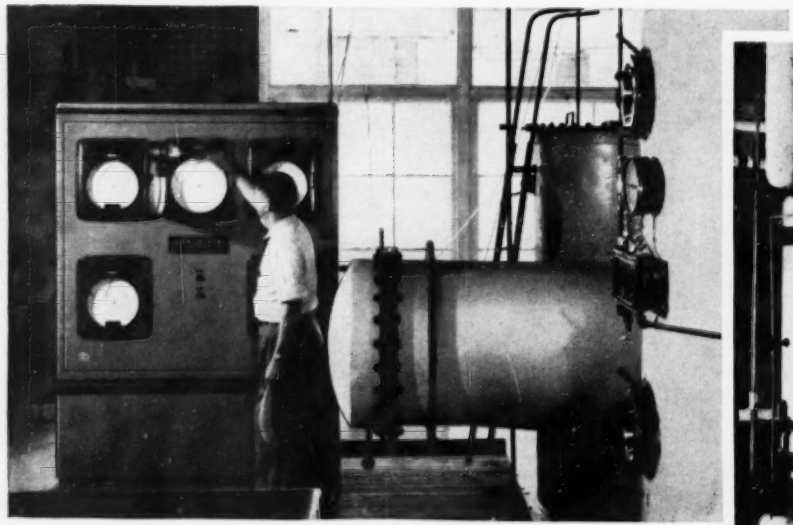
A lamb in ORLON clothing

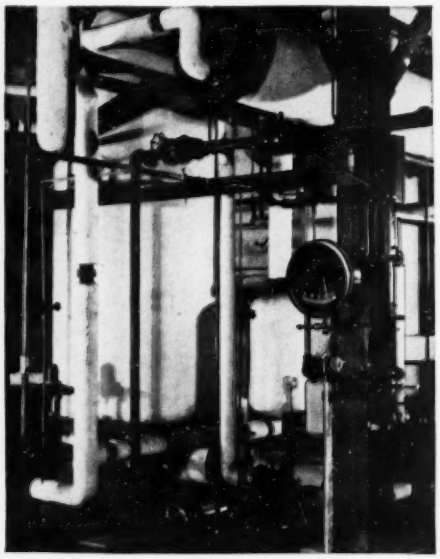
tantalizing? revolutionary?

but *yours* for the asking now... Burlington has pioneered again, and proudly announces the success of their new machine which makes possible *for the first time* the dyeing of Dacron and Orlon woven fabrics in colors richer than the rainbow. And, as wise men know, at the foot of the rainbow lies the pot of gold.

BURLINGTON ENGINEERING CO., INC., GRAHAM, N. C.

Get Real Caustic Economy with AUTOMATIC EVAPORATOR CONTROL





Installation at one of American Thread Company's plants, designed for Zaremba Evaporators. Careful estimates indicate that this Foxboro Cabinet Control system will pay for itself in less than a year through new, overall economies.

A New Opportunity to Modernize Another Important Textile Process

By adapting the basic principles of successful evaporator control to textile processing, a far more efficient means of reclaiming caustic is made available. Through accurate, coordinated control of variables, this latest Foxboro development improves caustic reclamation three ways . . . it increases evaporator capacity and saves caustic, thus cutting costs; it helps to reduce stream pollution, and it eliminates routine checking, manual controlling and record writing.

Textile Machinery and Mill men worked closely with Foxboro engineers in developing this important new automatic control system. Such cooperation frequently leads to important processing advances and this is no exception. For complete information on the new automatic evaporator control, contact your nearby Foxboro Field Engineer or write, **The Foxboro Company, 4812 Neponset Ave., Foxboro, Massachusetts, U. S. A.**

5 OUTSTANDING FUNCTIONS

1. *controls caustic concentration automatically by electronic comparison of solution's boiling point to boiling point of water at the same pressure . . . a unique method on Foxboro systems, known as "boiling point rise" control—*

2. *accurately measures steam flow and weak liquor flow to indicate efficiency of evaporators for better maintenance—*

3. *controls liquid level of make-up caustic tanks—*

4. *measures the percent of caustic in steam condensate and condenser hot water leaving evaporator . . . and—*

5. *automatically diverts these to sewer if caustic content rises above safe limits.*

FOXBORO
Reg. U. S. Pat. Off.

Process-Improving Controls FOR THE TEXTILE INDUSTRY

"... says he put the acid too close to his Marilyn Monroe calendar"

There's no chance for bombshell production surprises when Seyco keeps a close watch on the formulas you use. Every Seyco technician is a bug on making sure that each new shipment exactly matches the last in content quality.

Naturally one product can't do averything—efficiently. Tell your Seyco man what you're after—hand, weavability, penetration, levelling, absorbency, detergency, whatever—and if we don't have it, we'll mix it to fit!

Warp Sizing: *Softeners, Binders, Penetrants, Ty-In Penetrants, Shuttle Dressing.*

Wet Processing Chemicals and Auxiliaries: *Dye Assistants, Penetrants, Rewetting Agents, Sanforized Fabric Oils, Detergents, Scouring Agents, Softeners.*

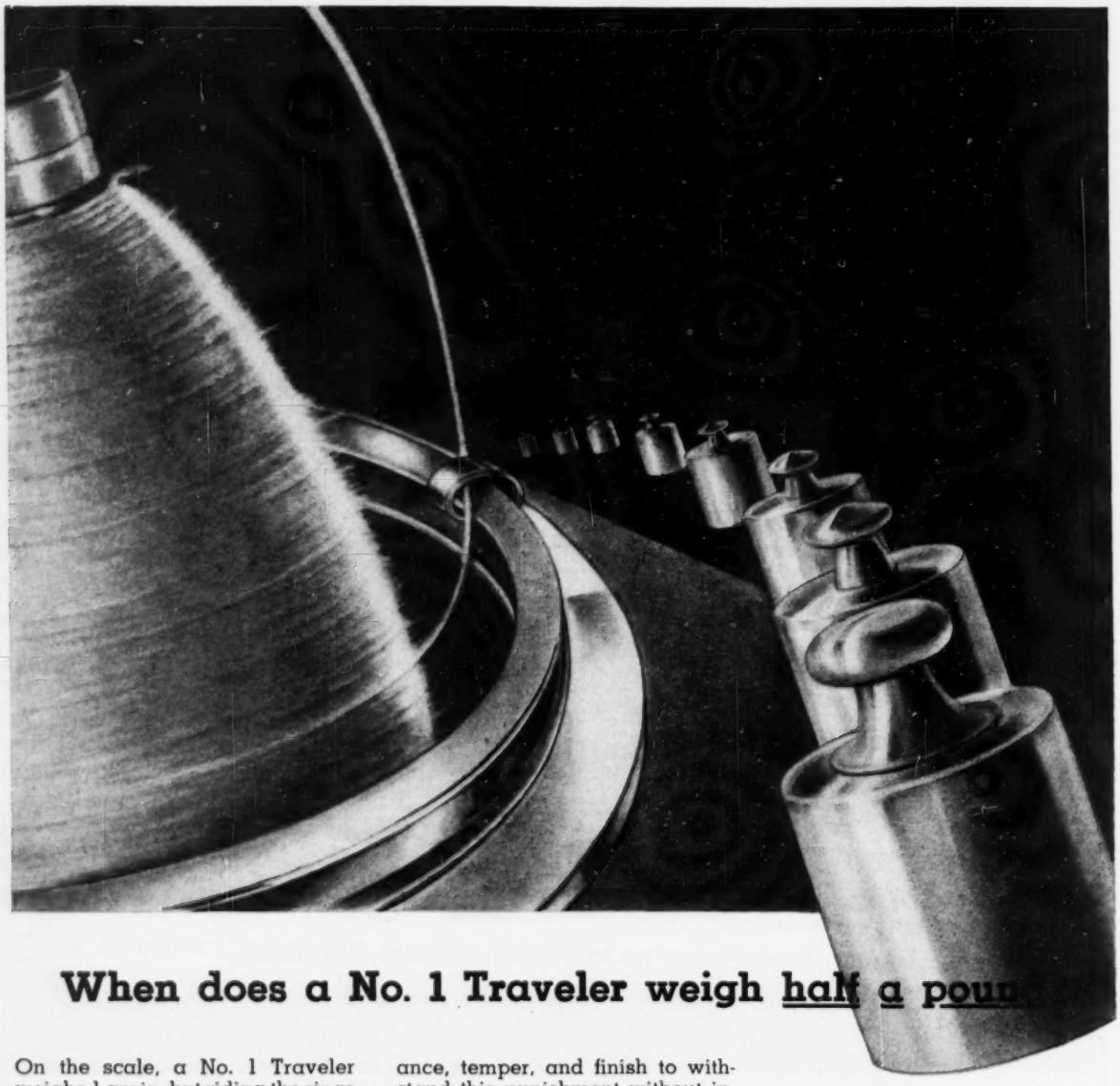
Niagara Twist-Setter: *Yarn Conditioning Penetrants.*

Headquarters for textile chemicals

SEYDEL-WOOLLEY & CO.

748 RICE STREET, ATLANTA, GEORGIA

SEYCO



When does a No. 1 Traveler weigh half a pound

On the scale, a No. 1 Traveler weighs 1 grain, but riding the rings at today's high speeds, it exerts an amazing "pull".

By applying simple dynamic principles to known factors, the centrifugal force can be calculated. For a No. 1 Traveler operating at 9600 r.p.m. spindle speed on a 2½" ring, this force is 3250 grains — almost half a pound!

Consider how this intensifies conditions of wear and friction. You'll see how important it is to choose travelers of the proper balance, temper, and finish to withstand this punishment without interrupting the smooth flow of yarn production.

Victor Travelers are made to serve longer — to deliver more pounds of yarn per traveler — under the toughest conditions. That's why they are first choice of economy-wise mill men for more than 12,000,000 of today's hard-working spindles.

Whether you are running conventional fibers, synthetics or blends, talk to a Victor Service Engineer about your traveler problem. Write, wire, or phone the nearest Victor office . . . for prompt service.

•

VICTOR Ring Travelers

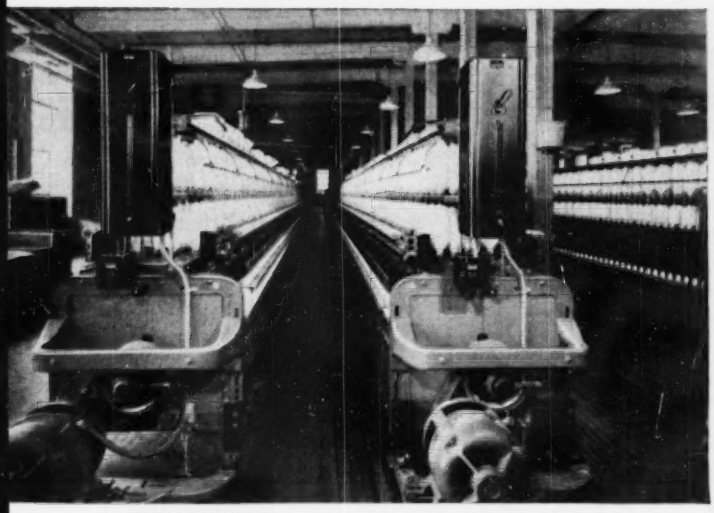
VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 1-0737

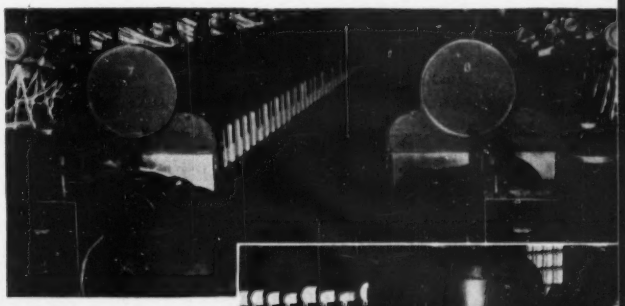
GASTONIA, N. C. . . . . 914-916 East Franklin Ave. . . . . Tel. 5-0891

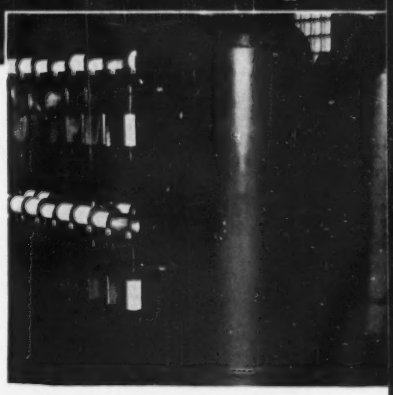
CUTLER-HAMMER

MOTOR CONTROL FOR THE TEXTILE INDUSTRY



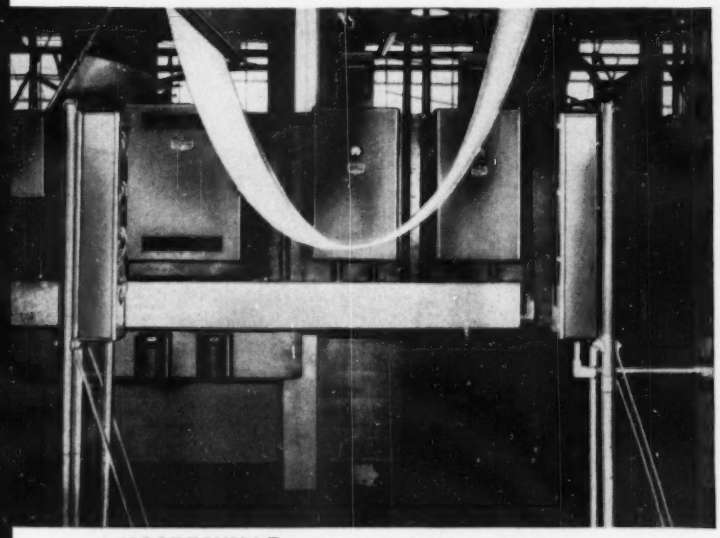
at STATESVILLE. Cutler-Hammer Combination Starters and Shipper Rod Switches on spinning frames in STATESVILLE DIVISION, The Seminole Mills, Statesville, N. C.





for WAUMBEC

at Manchester, N. H. Cutler-Hammer Pushbutton Manual Starters on uptwisters and Primary Resistor Type Magnetic Starters on roving frames. Cutler-Hammer control also used on looms and spinning frames in this great mill.



at MOORESVILLE. Cutler-Hammer Electronic Dancer Roll Regulator and Range Drive Controller on slack drying range at Mooresville Mills, Mooresville, N. C.

NEW CUTLER-HAMMER LOOM SWITCH

with Lint-Tight Gasketed Enclosure

Approved by Factory Mutual Laboratories for use in F. M. insured plants as recommended by the F. M. Engineering Division.

Pushbutton operation —an achievement for this type of starter. Stop button can be padlocked.

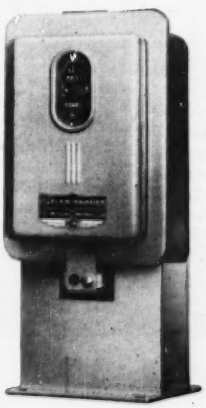
Stronger, smaller, drawn steel case. Unique welded-steel mounting pedestal available to create a *complete* assembly with unparalleled resistance to mechanical shock.

New NEMA 1A lint-tight gasketed enclosure prevents entrance of lint and dust.

Service proven, positive make, quick break operating mechanism built on *steel* framework.

"Out in the open" contacts for quicker inspection and easy renewal *on the job*. Most dependable overload protection—famous Cutler-Hammer eutectic element type—prevents unnecessary shutdowns without sacrifice of *positive* motor protection.

Vibration resistant. Mechanism "floats" in truly effective *live rubber* mounting bushings.



Too important to be left to chance

Men who *know* textile production costs are careful buyers of motor control equipment. They know a single work stoppage caused by faulty control can easily cost more than the entire purchase price of the control. In consequence, they do two things. First, they compare *all* makes of motor control to determine which is most dependable. Second, they specify this make by *name* on every purchase order.

Cutler-Hammer Motor Control is the natural choice of men who know dependability in motor control is too important to be left to chance. They quickly find Cutler-Hammer dependability is not a mere competitive claim but a *fact* that can stand out clearly in a mill's production records to reflect favorably on their own ability and good judgment. They also find that Cutler-Hammer dependability is not an occasional happenstance... that it is the earned advantage of the longest and most intensive specialization in motor control engineering... that it can safeguard *every* control need from the simplest starter to the most complex electronic equipment.

You too will find it pays to insist on Cutler-Hammer Motor Control and refuse all substitutes. An adequate network of Authorized Cutler-Hammer Distributors throughout the textile manufacturing areas insures prompt attention and supply. CUTLER-HAMMER, Inc., 1456 St. Paul Avenue, Milwaukee 1, Wisconsin.

CUTLER-HAMMER
MOTOR CONTROL
C-H

DAYCO Cots Eliminate

New ingredient, IBC, successfully prevents build-up of long staple fibres that cause

Ask any mill owner who has converted to Dayco Cots on his spinning frames! He'll tell you Daycos have rid his mill of excessive eyebrowing, *completely.*

The reason Daycos have been able to solve this problem, where other cots have failed, is because of a new wonder ingredient — IBC.

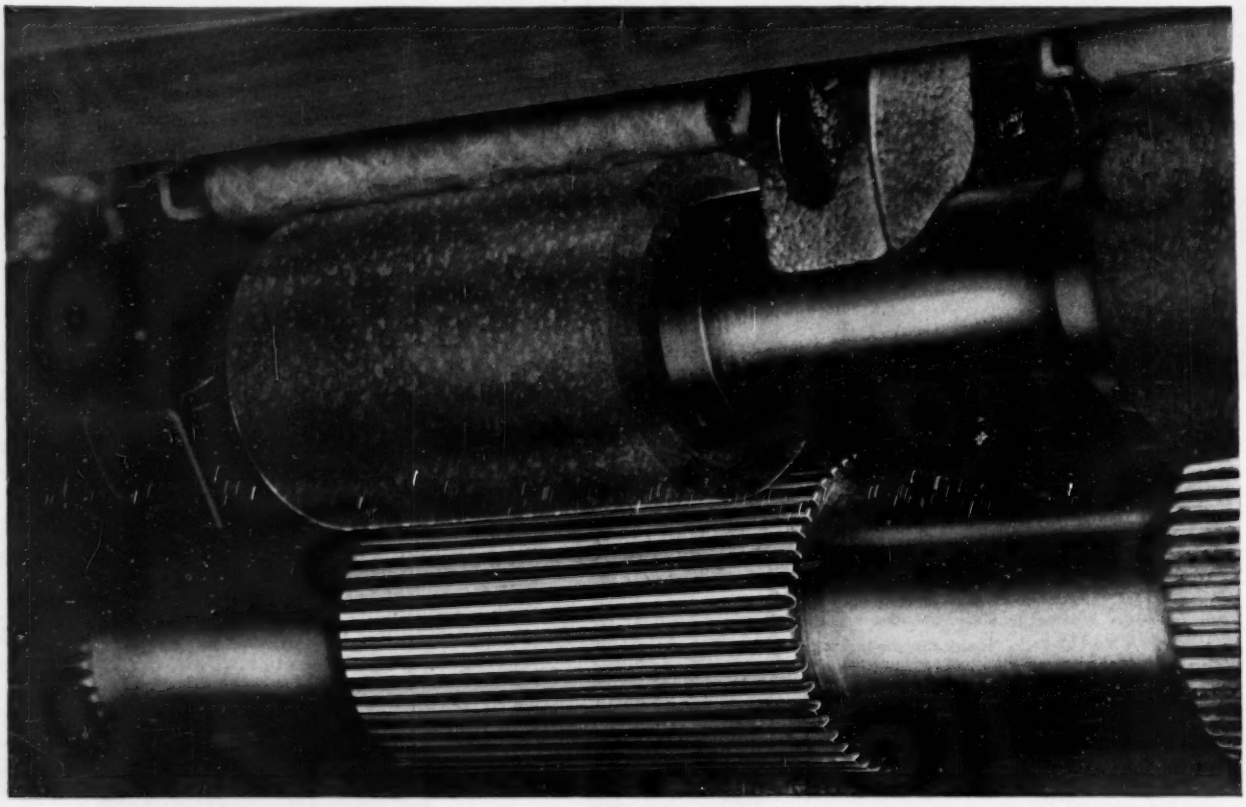
IBC, an exclusive development of the Dayton Textile Research Laboratory, is a non-eyebrowing ingredient which has been combined with a singularly effective blend of synthetic rubber. The combination sets up a mechanical and chemical action, producing just the right coefficient of friction to cause the short staple fibres to be picked up and tucked well back on the clearer board. Long staple fibres, the cause of troublesome eyebrows, are left in the yarn where they belong. The result is less eyebrowing, fewer lap-ups and ends down, less waste, and consistently higher quality yarn.

More than that, Dayco EW 465 Cots offer important savings all along the line. Because eyebrowing is minimized, fewer cleanings of the clearer board are required, thus saving time and labor. And you'll save money on Dayco Cots containing IBC because slicking and glazing is retarded. That means fewer buffings and longer service life.

These are money-saving advantages mill owners everywhere enjoy with Dayco Cots. Why not make a test on your own frames today. Test Daycos side by side with any other cots—on natural or synthetic yarns—we guarantee you'll be amazed at the results and pleased with the improved performance Daycos give you.

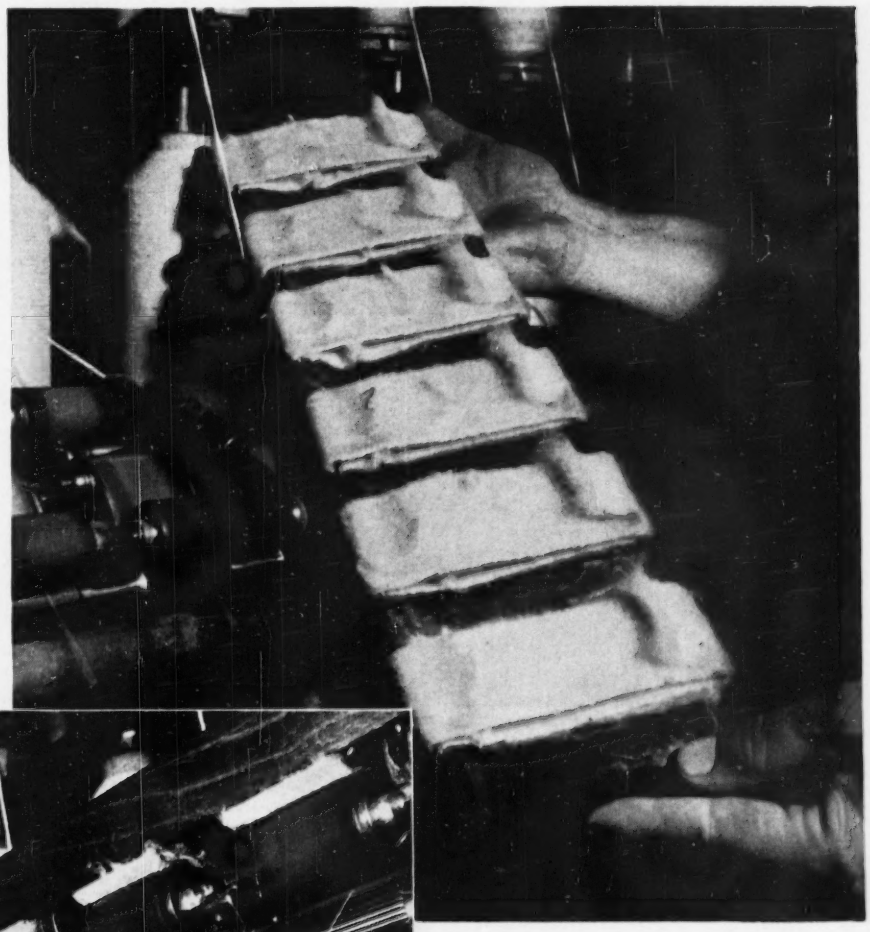
You'll find Dayco Cots will free you from eyebrowing as a major problem, reduce your operating costs through longer cot life, improve yarn quality and uniformity and give you a bonus in time and labor saved!

Call your Dayco representative without delay — he'll be glad to help you make a test of Dayco Cots at once. Or write direct to: Dayton Rubber Co., Textile Division, Dept. 36, Woodside Bldg., Greenville, S. C.

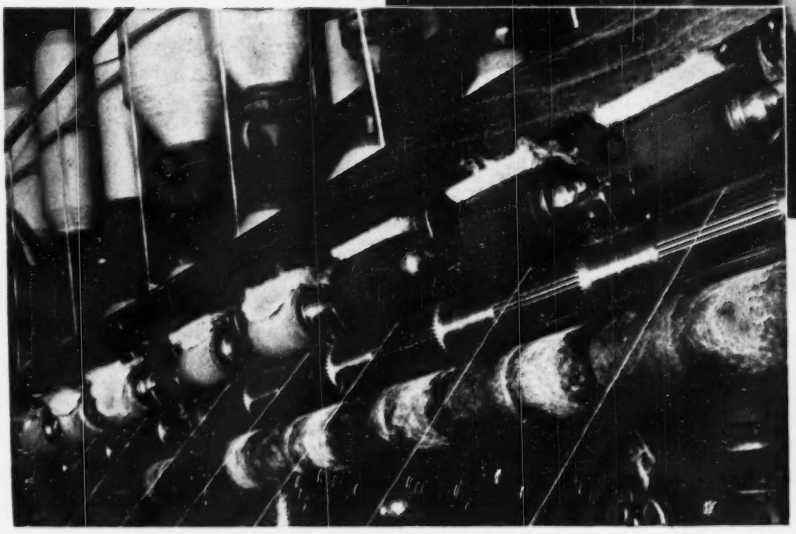


Eyebrowing as major problem!

excessive eyebrows!



Clearer board used with Dayco EW 465 Cots containing eyebrow controlling IBC. Minimum amount of waste collected is seen well back on the clearer board away from the eyebrowing position. Tests prove conclusively Dayco Cots combat eyebrowing, draft superior yarn and reduce overall costs. Make your next cot order Dayco EW 465 Cots with IBC.



Dayco Cots (upper right of the photo) tested on same frame, running identical yarn, for same length of time as ordinary cots at lower left of frame. Note complete lack of eyebrows on forward edge of clearer boards above Dayco Cots.

Dayton Rubber

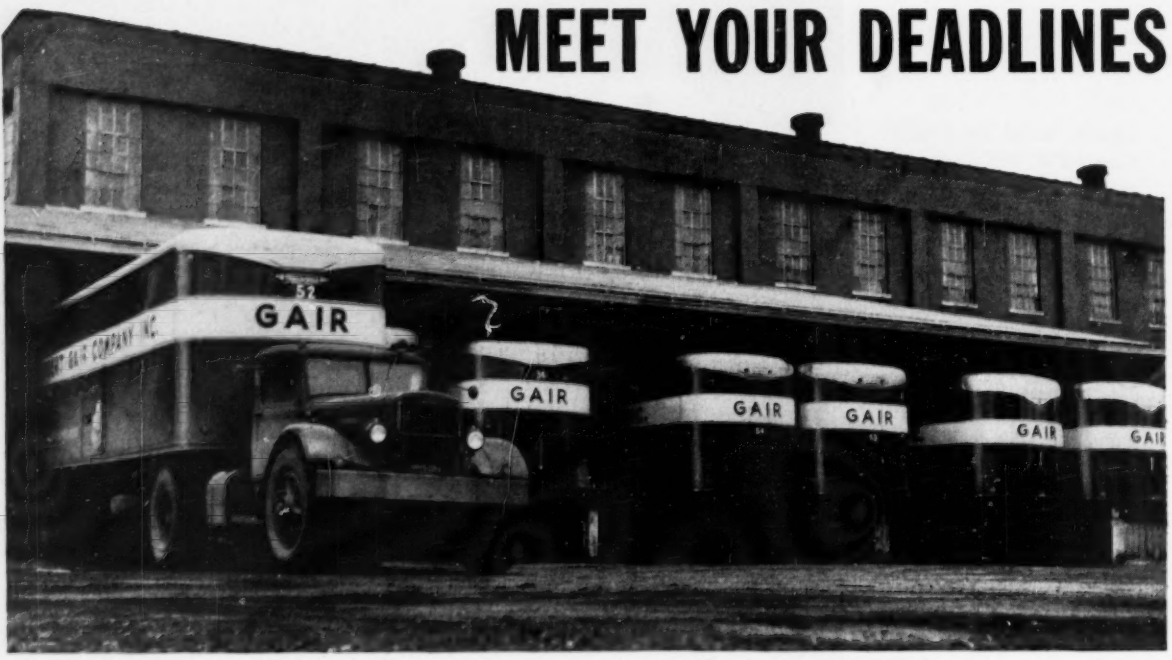
Since 1905

© D.R. 1954

Dayco and Dayton Thorobred Textile Products for Better Spinning and Weaving

Dayton Rubber Company, Textile Division, Woodside Building, Greenville, S. C.

GAIR can help MEET YOUR DEADLINES



with assured delivery service

It's not hard to get a promise of shipping container delivery. But often there are a number of "ifs" in that promise. "Ifs" that don't exist at Gair.

"If our supply of raw materials permits, we'll be able to deliver on schedule" is one of the "ifs" you won't find at Gair. Our raw materials are grown in our own forests, processed in our own plants. We don't run short.

"If our manufacturing schedule holds up" is another qualification you won't hear from Gair. We have *eleven plants*, equipped to fabricate whatever quantities and types of corrugated or solid fibre shipping containers you need.

"If local transportation facilities stay on schedule" is a third worry you don't have with Gair. Gair trucks provide a neighborhood service from strategically located plants.

Check your nearest Gair plant for the complete story on Gair-designed shipping containers to meet your specific needs. SC.4.2

GAIR CONTAINER PLANTS

Cambridge, Mass. • Cleveland, Ohio • Holyoke, Mass. • Los Angeles, Cal. • Martinsville, Va. • No. Tonawanda, N.Y. • Philadelphia, Pa. • Portland, Conn. • Richmond, Va. • Syracuse, N.Y. • Teterboro, N.J.

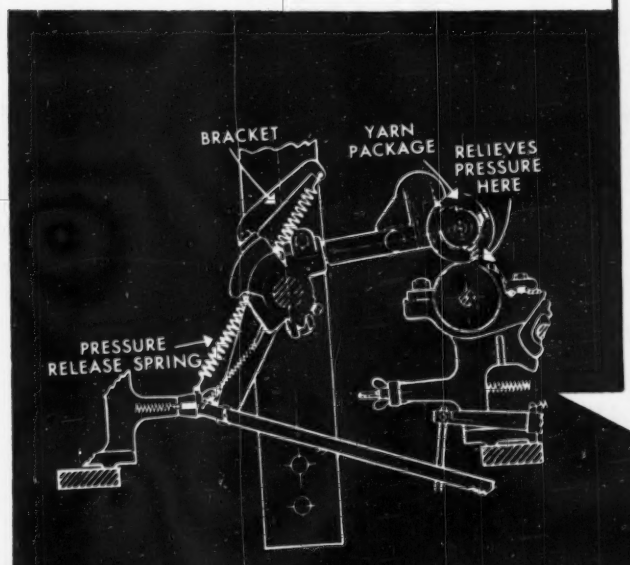
GAIR

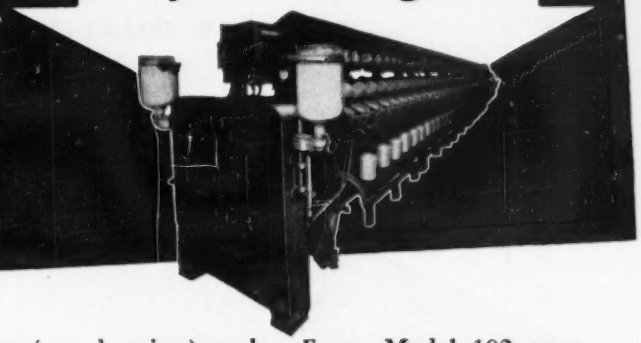
SHIPPING CONTAINERS
FOLDING CARTONS
PAPERBOARD

ROBERT GAIR COMPANY, INC. • 155 EAST 44TH STREET • NEW YORK 17

FOSTER MODEL 102

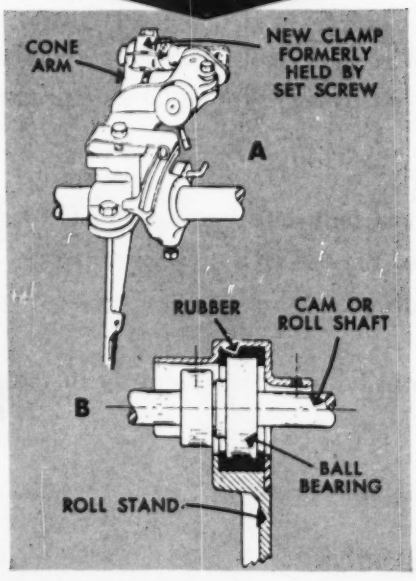
Better than Ever for Winding Dye Packages





Our new pressure release mechanism (see drawing) makes Foster Model 102 even more suitable than before for winding dye packages. As shown, this new mechanism enables you to regulate pressure of the yarn package on the driving roll — and thus to produce a very soft package, if desired. Simple, rugged and easy to adjust, the device is built around a pressure release spring whose tension may be regulated.

Also New!



Model 102 is the *flexible* winder — adapts readily for winding staple yarns of all types in a wide range of counts, doubles production and reduces operating costs 1/3 by contrast with obsolete machines. And it gets better all the time, as we develop its possibilities to meet new conditions in the textile industry.

A. Collar Assembly
to hold cone or tube spindle eliminates pitting and scoring of arm, makes accurate setting always possible.

B. Rubber Boot Assemblies
to cover ball bearings on cam and roll shafts facilitate alignment, reduce vibration — thus prolong life of machine, with less maintenance.

For Complete Data on Model 102, Send for Bulletin A-95 No Obligation!

FOSTER MACHINE COMPANY
WESTFIELD, MASS., U.S.A.

Southern Office: Johnston Bldg., Charlotte, N. C. • *Canadian Representative:* Ross Whitehead and Co. Ltd., 1475 Mountain St., Montreal, Que. and 35-37 King St., W., Toronto • *European Representative* Muschamp Textile Machinery Ltd., Keb Lane Bardsley, Ashton-Under-Lyne, Eng.

REPORT
2

Celanese CORPORATION OF AMERICA, NEW YORK 16

THIS IS

A LABELLING PROGRAM DESIGNED TO IDENTIFY QUALITY FABRICS MADE OF ARNEL

In ARNEL Celanese has achieved a new triacetate fiber with the broadest possible wash-and-wear applications.

Precisely *because* ARNEL's potential is so great, Celanese is determined that ARNEL fabrics shall in fact provide the consumer with all those advantages which the nature of the fiber makes possible.

To that end Celanese is now working closely with mills and converters to perfect specific ARNEL† fabrics for specific end-uses.

These fabrics will be identified to the consumer by the distinctive ARNEL hang tag shown on the opposite page.

Only merchandise made of the fabrics that meet Celanese standards of quality will be permitted to carry this tag. Woven labels will also be available.

ARNEL will be supported with consistent and responsible advertising designed to *inform* the public of ARNEL's characteristics—accurately and without exaggeration.

Other developments on ARNEL will be reported promptly in these pages.

Celanese Corporation of America, New York 16.

†Trademark

ARNEL†

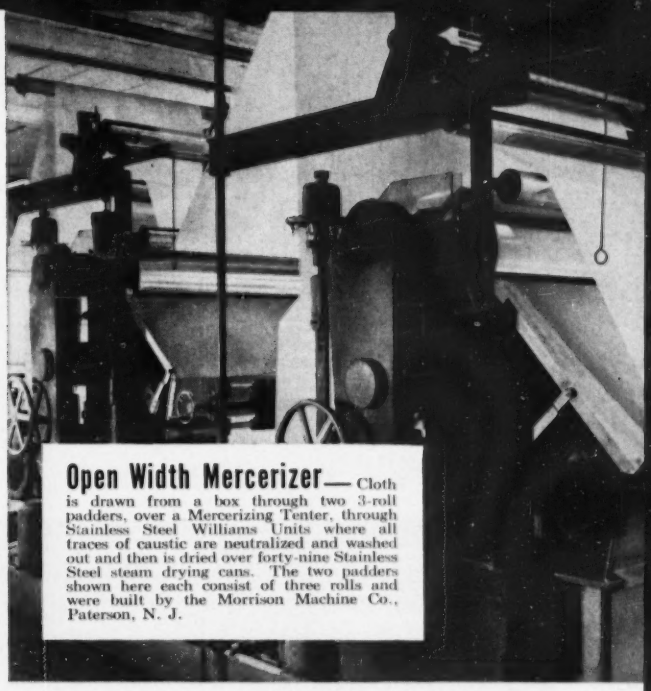
TRIACETATE

the beautiful new carefree fiber

For further information use Handy Return Card, Page 201

VATROLITE® — Use this powerful concentrated reducing agent for brighter vat dyed colors on cotton, linen and rayon . . . for faster, cleaner stripping results on silk, cotton and rayon.
DISCOLITE® — A concentrated reducing agent, highly stable at high temperatures, outstanding for discharge and vat color printing. Employed successfully wherever the reducing agent must dry into the fabric and retain its reducing power.
NEOZYME® — Concentrated low temperature desizing enzyme. Removes starch and gelatine. Excellent for eliminating thickeners from printed goods at low temperatures.
PAROLITE® — A dust-free white crystalline reducing agent. Soluble, colorless, excellent for stripping wool, wool rags, shoddy acetate or Nylon fabric.
NEOZYME® HT — Concentrated high temperature desizing enzyme. Removes both starch and gelatine. Suitable for continuous pad-steam method. Remarkable stability at very high temperatures.
NEOZYME® L & NEOZYME Special — Liquid desizing enzymes in two degrees of concentration. Remarkable stability at very high temperatures.
VELVO SOFTENER #25 — Economical creamy white paste softener derived from highly sulphonated tallows. Gives softness and body without stiffness or affecting whites.
NEOPON® — Surface-active compound with excellent detergent qualities with some wetting power. Not affected by hard water. Can be used in acid, neutral or alkaline baths.
DISPERSALL® — Effective retardent for dyeing vat colors, dispersing and leveling qualities, for dyeing naphthol and vat colors, useful in wool and acetate dyeing. Valuable auxiliary in stripping vat colors, naphthols.
CASTROLITE® — A highly sulphonated castor oil used as a staple penetrant for dyeing or bleaching in leading textile mills.
NEO'WET® — Permits effective wetting at all temperatures — particularly useful with enzymatic desizing agents. No reaction to soft or hard water. Not affected by either acid or alkali chemicals. Non-ionic.
VELVORAY® — A blend of vegetable oils and selected fats for a superior, non-foaming finishing oil. High in combined SO_3 and stability. Excellent for sanforizing, will not smoke off at high temperatures.
NEOQUEST® — Removes the unwanted metallic ions from your processing liquors. Kier boiling assistant; dyeing assistant; does good even in the finishing mix. Cleaner whites; brighter colors.
Royce
ROYCE CHEMICAL CO.
CHEMICAL COMPANY • CARLTON HILL, NEW JERSEY
Manufacturers of Chemicals for the Textile Industry

Open Width Bleach— Cloth passes through an open width washer, caustic saturator, steamer, washer, peroxide saturator, steamer, washers and then over forty-nine Stainless Steel steam heated dry cans. All the equipment with the exception of the rubber rolls is Stainless Steel. Shown here are the Tensitrol Open Width Washers fabricated by Rodney Hunt Machine Co., Orange, Mass.



Open Width Mercerizer— Cloth is drawn from a box through two 3-roll padders, over a Mercerizing Tenter, through Stainless Steel Williams Units where all traces of caustic are neutralized and washed out and then is dried over forty-nine Stainless Steel steam drying cans. The two padders shown here each consist of three rolls and were built by the Morrison Machine Co., Paterson, N. J.

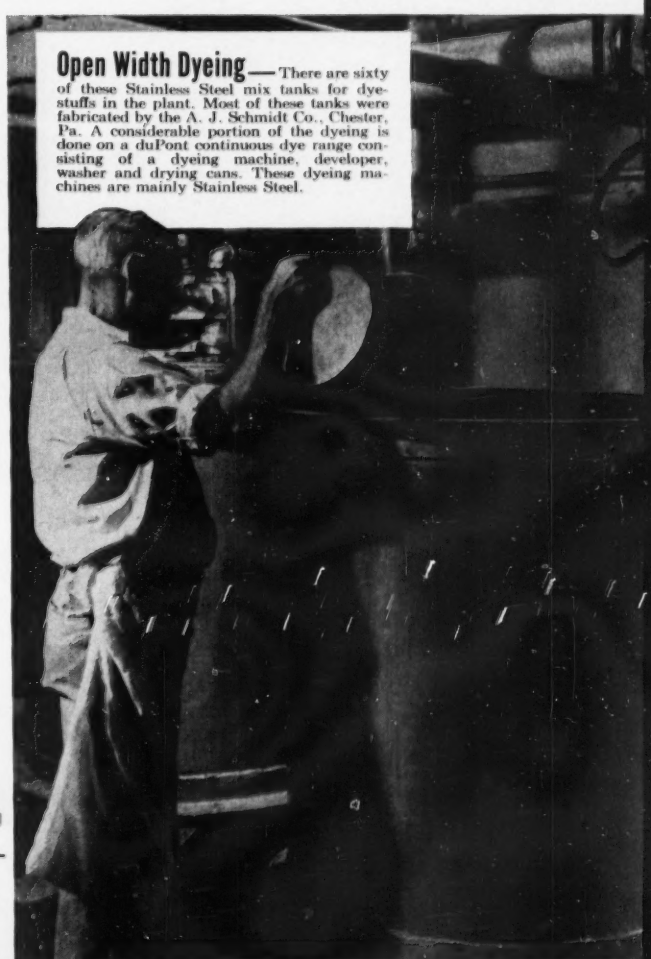
Stainless Steel prevents contamination at every step

WHEN you are finishing cloths in continuous lengths, the smallest stain can be an expensive proposition, for it means reprocessing an entire bolt. The most effective way to guard against contamination from rust, dye carry-over or other causes is with equipment made of Stainless Steel.

The 123-year-old firm of Joseph Bancroft and Sons Co., Wilmington, Del., takes full advantage of the ability of Stainless Steel to protect against contamination by using it extensively in bleaching, mercerizing and dyeing operations.

This firm has found that Stainless Steel's light, bright surface makes detection of foreign matter easy. Its superior corrosion resistance completely does away with the problem of rust from the equipment itself. Its dense, smooth surface does not retain dye from one color to the next. And its durability, with resulting savings in maintenance and replacement, makes it the most economical material in the long run.

Follow the lead of America's foremost textile plants and use Stainless Steel wherever its many advantages dictate. And when you do, be sure it is perfected, service-tested USS Stainless Steel. Then you know you'll get the finest performance.



Open Width Dyeing— There are sixty of these Stainless Steel mix tanks for dyestuffs in the plant. Most of these tanks were fabricated by the A. J. Schmidt Co., Chester, Pa. A considerable portion of the dyeing is done on a duPont continuous dye range consisting of a dyeing machine, developer, washer and drying cans. These dyeing machines are mainly Stainless Steel.

UNITED STATES STEEL CORPORATION, PITTSBURGH
AMERICAN STEEL & WIRE DIVISION, CLEVELAND
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
NATIONAL TUBE DIVISION, PITTSBURGH
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA.
UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS STAINLESS STEEL

USS

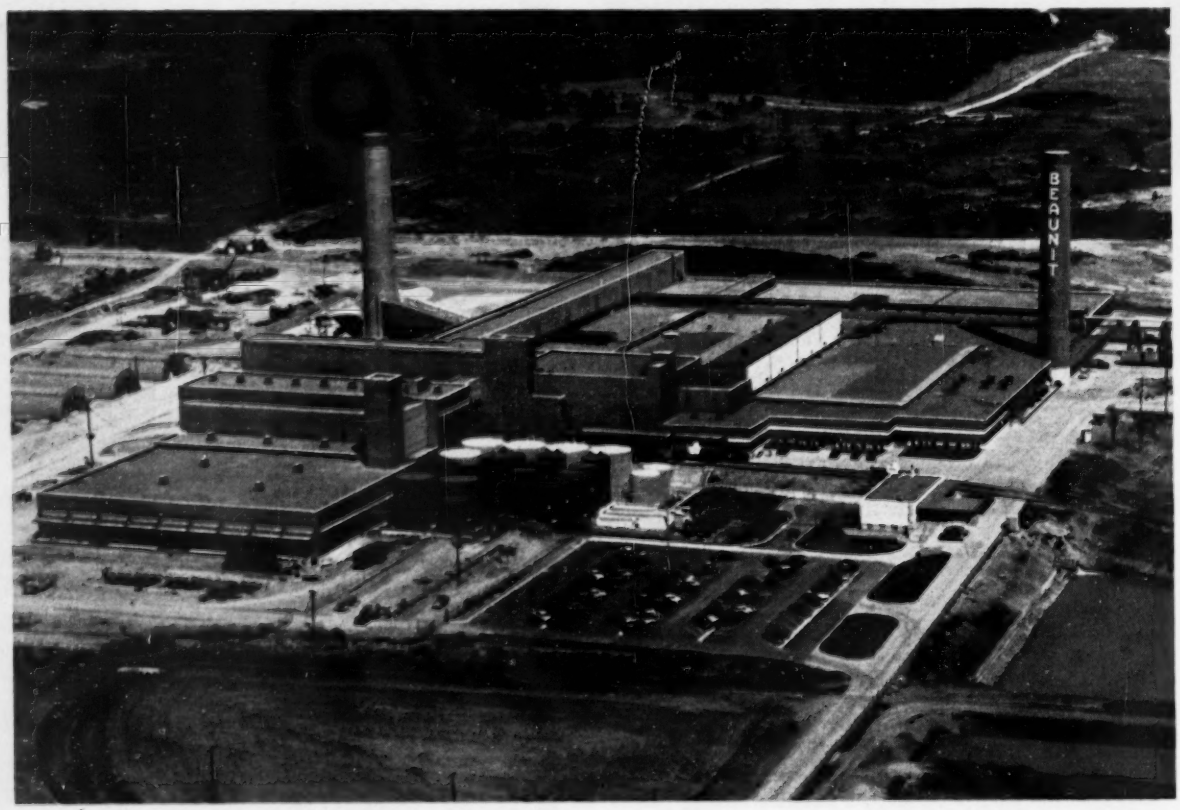
SHEETS · STRIP · PLATES BARS · BILLETS
PIPE · TUBES · WIRE · SPECIAL SECTIONS

4-1016

UNITED STATES STEEL

This mill has 15 Carrier air conditioning systems

You're looking at the new Beaunit Mills, Inc., plant in Coosa Pines, Alabama. Unit No. 1 of this modern rayon mill was built in 1949. Its capacity: 10,000,000 pounds of viscose textile yarn or 24,000,000 pounds of tire yarn a year. Its air conditioning: Carrier. ▪ Though modern Carrier air conditioning *with* refrigeration plays a vital role in almost every textile operation, it is especially important in rayon coning. Low relative humidities required can be achieved only with refrigeration, if temperatures are not to be raised to unbearable levels. ▪ Unit No. 2 of this big mill, with a capacity of 36,000,000 pounds of viscose tire yarn, was built in 1952. Once again Beaunit chose Carrier. Modern Carrier air conditioning serves the press room, crumb aging



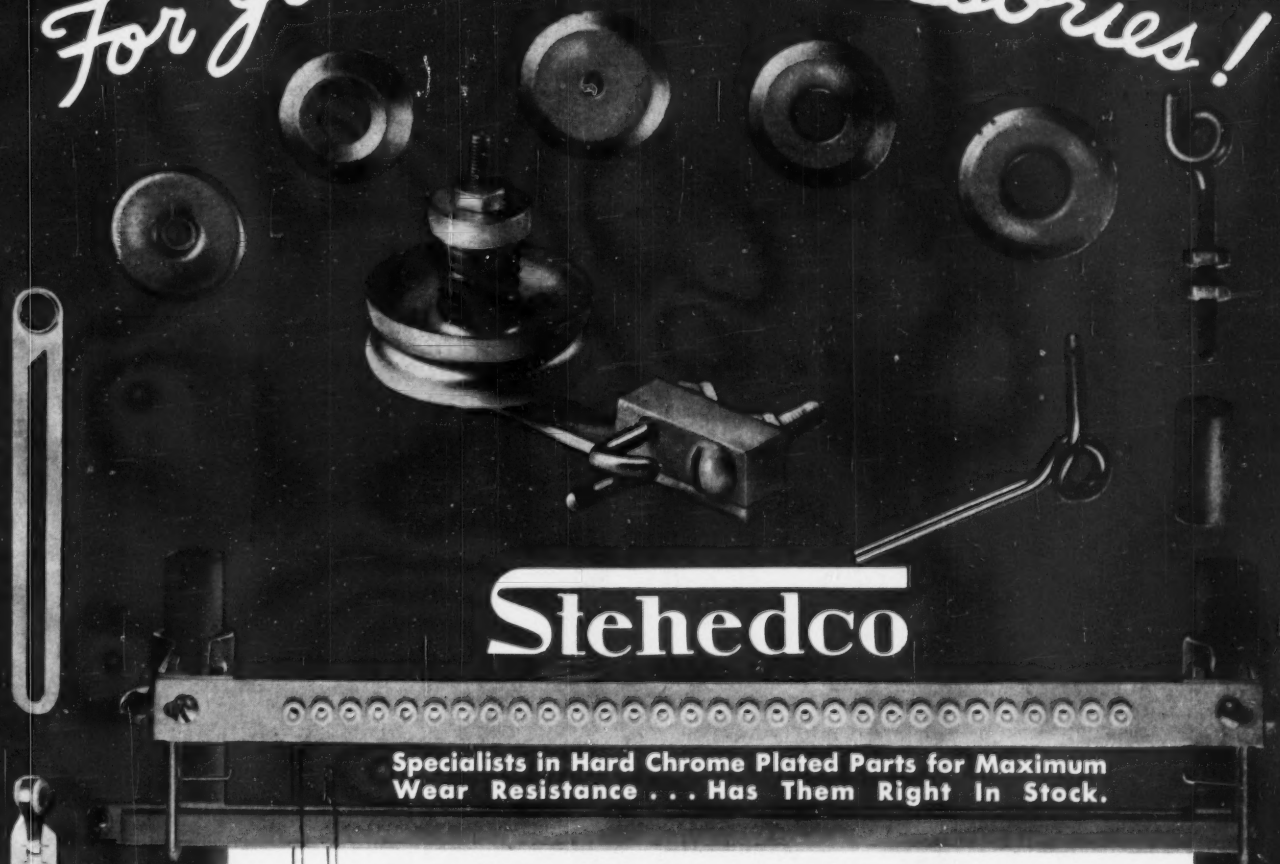
room, churn room, dissolver room, and aging room. ▪ Today, 15 separate air conditioning systems allow the mill to choose different indoor weather conditions for each operation. Five giant Carrier Centrifugal Machines supply refrigeration. Carrier also air conditions the mill's offices and cafeteria. ▪ No matter how large or small your mill, Carrier can design air conditioning to fit your needs. Why not do as most of the other important names in the textile business have done? Call on the company with an unparalleled half century of experience in textile air conditioning. Call on Carrier. Your nearest Carrier office is as close as your telephone. Or write to Carrier Corporation, Syracuse, New York.

Carrier

air conditioning
refrigeration
industrial heating

Architects and Engineers: Lockwood Greene Engineers.
Builders: Daniel Construction Co.

Check For Your Creel Accessories!



Stehedco

Specialists in Hard Chrome Plated Parts for Maximum Wear Resistance . . . Has Them Right In Stock.

TENSION WASHERS — For 1/8"-13/32" and 1/2" posts. Weights ranging from 15 to 170 grains.

New processing methods insure even tension through perfect surface flatness and uniformity of finish, whether satin or bright.

PIGTAIL GUIDES — Over 200 styles and sizes in stock. Your special requirements are no problem to us. Please furnish a sample for proper identification.

STOP MOTIONS — For any type Creel. Alsimag or porcelain eyes. Chrome plated, alsimag or porcelain eye drop wires in any weight required.

Steel Heddle Mfg. Co. carries a full line of Warp Preparation Equipment. Future advertisements will feature equipment for Warpers and Slashers.

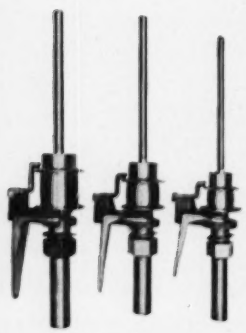
Stehedco and Southern
WORLD FAMOUS TRADE MARKS OF THE
Steel Heddle
Mfg. Co.
1-9-17

STEEL HEDDLE MFG. CO.,
SOUTHERN SHUTTLES
STEEL HEDDLE COMPANY OF CANADA, LIMITED

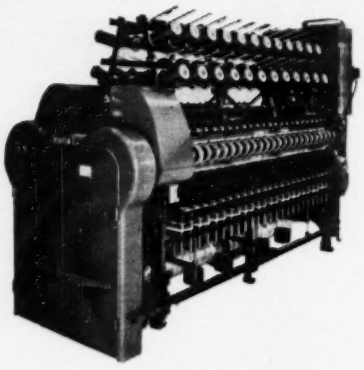
TWISTING | **SPINNING**

number three of a series depicting

MORE AND BETTER TEXTILE PRODUCTION WITH HYATTS



Various sizes of Whitin Twister Spindles equipped with specially-designed Hyatt Roller Bearings



Whitin Model BW Worsted Spinning Frame with cylinders mounted on Hyatt Wound Roller Bearings

Thousands of Hyatt Roller Bearings applied to spinning and twister frames have demonstrated outstanding advantages throughout the textile industry.

ON CYLINDERS, Hyatts provide smoother operation with less power, less lubrication and hence lower maintenance cost. Their sealed housings also assure clean tapes, frames and floors by preventing lubricant leakage.

IN SPINDLES, Hyatts permit higher speeds with more production per spindle. Reduced friction also means less tape slippage—more uniform spindle speed and more uniform yarn. Moreover, Hyatt-equipped spindles can easily carry the larger packages now favored by textile mills—another reason why you're always sure of *more and better textile production with HYATTS!*

For further details on the profitable application of HYATT Roller Bearings to textile machinery, request Bulletin T-54 from Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey

HYATT ROLLER BEARINGS

STRAIGHT ○ BARREL ○ TAPER ○

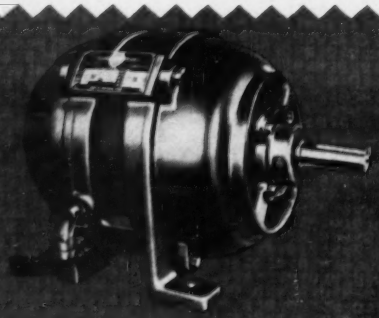
KEEP IT HOT

you save money at higher temperature with

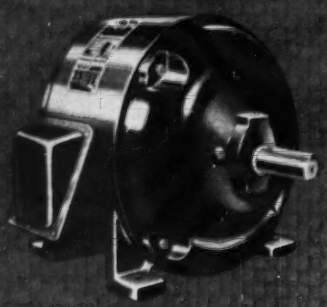
RAPIDASE®

Continuous high temperature de-sizing has been adopted by virtually every large dyer and finisher in the country. The majority of these use RAPIDASE. One reason is that of all enzyme de-sizing preparations, RAPIDASE is most heat resistant and consequently most suitable for the speedier and more economical de-sizing at higher temperature.

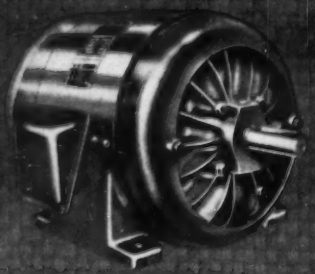
WALLERSTEIN COMPANY, INC., 180 MADISON AVENUE, NEW YORK 16, N. Y.



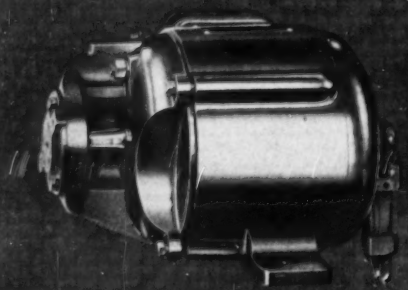
FOR LINT-FILLED ATMOSPHERES specify a DIEHL Type "DT" Dust-Tight Motor. In all such operations where fly is present, the special construction of this motor assures protection and long life. Special features—rigid end cover construction and Hyatt roller bearing at pulley end.



FOR GENERAL MILL APPLICATION specify a DIEHL Type "SS" StanCase Motor. An economical and versatile power plant, it is adaptable to compressors, pumps, conveyors, air conditioners, blowers, etc.



FOR FINISHING AND DYE PLANTS specify a DIEHL Type "DPF" Totally Enclosed Fan-Cooled Motor. Complete protection of the internal parts is provided by a full enclosure; high efficiency is aided by the cooling effect of the large external fan.



FOR DRIVING LOOMS specify a DIEHL Power Transformer. The construction and "built-in" inertia of this integrated unit permit maximum weaving speeds with greatest operating efficiency.

for every textile application

SPECIFY A DIEHL MOTOR!

These are only a few of the many types of general and special-purpose motors DIEHL offers to satisfy every mill requirement. Over 68 years of motor building experience makes DIEHL motors your best buy!

DIEHL MANUFACTURING COMPANY
Electrical Division of THE SINGER MANUFACTURING COMPANY
Finderne Plant, SOMERVILLE, N. J.

Please send me the following bulletins:

- ☐ New Type "D" Motor Bulletin No. TI-3304
- ☐ Consolidated Motor Catalog and Price List No. TI-3310
- ☐ Power Transmitter Bulletin No. TI-3126

Name_____

Company_____

Street_____

City_____ State_____

Textile Industries
for December, 1954

News in Brief

Next Big Show in 1960. The next American Textile Machinery Exhibition will be held in the Atlantic City (N. J.) Auditorium during the last week of April, 1960, the American Textile Machinery Association announces. According to Frederic W. Howe, Jr., president of ATMA, the magnitude of the Exhibition and the vast sums necessary to produce it preclude the maintenance of a quadrennial schedule, despite the success of the 1954 show.

Abandon Core Test, Wool Men Ask. Woolen and worsted manufacturers have recommended to the Commerce Department that the Customs Bureau abandon the core testing of wool and return to the grease test system. Basis of the recommendation is that core testing damages the burlap containers and sometimes gets jute fibers mixed in with the wool.

Improve Service, Traffic Men Warn Railroads. Improved service and quicker deliveries are the only ways that railroads can regain business lost to motor carriers, textile traffic men told freight representatives of eastern and southern roads at a recent meeting. Ways to improve service advanced by the textile men were use of the "piggy back" system; maintenance by the railroads of their own trucking systems; and breakdown at the shipping point, rather than the receiving point, of goods to be delivered to a given area. These steps would be much more effective in solving the railroads' problems than any foreseeable reductions in carload and less-than-carload freight rates.

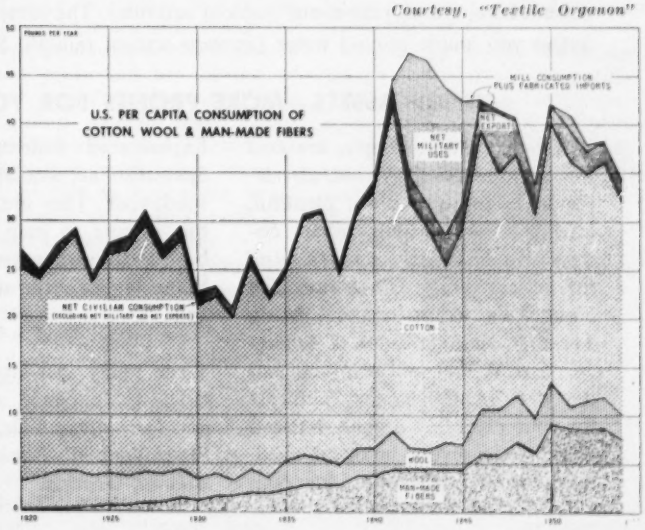
Price Cutting Won't Sell More Stretch Socks. The sensational gains made in the sale of stretch socks contain an element of danger, warns the National Association of Hosiery Manufacturers. The danger lies not in a falling off of sales to the consumer, but in the fact that sooner or later inventories will be built up by retailers and orders to the mills will then temporarily slacken. Price cutting during this period of transition to a normal market will not improve sales, since the consumer has already accepted the product at present price levels, but will put the whole operation on an unprofitable level from which it will be extremely difficult to return.

New Flame-Resistant Finish. Announcement of a new finish for flame-resistant cotton fabrics based on an emulsion treatment using an organic phosphorus-bromine polymer was announced by J. David Reid of the USDA's Southern Regional Research Laboratory, speaking recently at the Chemical Finishing Conference sponsored by the National Cotton Council. Flame resistant cottons have been prepared by the Laboratory through treat-

U. S. Per Capita Consumption of Cotton, Wool, and Man-Made Fibers

Net United States civilian consumption of the three principal fibers is shown in the lower three sections of this chart. Then there is added a band to show the net exports of the three fibers as one figure. Finally, military consumption for the noted years is added at the top of the chart and the top plotted line thus shows the mill consumption of fibers plus the fabricated imports on a per capita basis.

Courtesy, "Textile Organon"



where even the Weather is an Aid to Industry!

To compete for your share of this market of 28 million people in the Southeast, you've got to be *here*—where even the weather is a golden asset to industry. Our mild, snow-free climate cuts heating costs and absenteeism, allows year-round outdoor activities. The same climate guarantees you ample ground water (average annual rainfall, 50.42 inches).

MORE ASSETS—MORE PROFITS FOR YOU

And here's more: Ample, low-cost power; available raw materials; dependable transportation; plentiful, intelligent and willing labor; cooperative local governments. *And* for your banking connection, the Southeast's oldest national bank, The First National Bank of Atlanta . . . a bank that will help you find the ideal location in the Southeast for your plant . . . a bank that can handle your every financial need, including financing your re-location.

Experienced Industrial Location Specialists are available to do your spadework. They are ready to start this minute to help you find the best location for *your* operation. Many choice *river* sites are available.

* * *

Write today. All inquiries held in strictest confidence. *Address Business Development Department, The First National Bank of Atlanta, Atlanta, Georgia.*

. . . *in Business for your Business*

(Capital Funds in excess of $22,000,000)

ment of the fabric with an aqueous emulsion of an organic polymer, prepared from bromoform and triallyl phosphate. The finish is durable to repeated laundering and when applied with proper plasticization to fabrics of 8 to 9 oz. weight does not materially change their textile properties. The treatment may be applied on conventional textile finishing equipment.

Plans Announced for 42nd Knitting Arts Exhibition. All major segments of the industry are joining in sponsoring the 42nd Knitting Arts Exhibition, to be held at the Atlantic City (N. J.) Convention Hall, April 25 through 29, 1955. Associations which have pooled their efforts to make the show a success are the National Association of Hosiery Manufacturers, National Knitted Outerwear Association, and the Underwear Institute. Officials said 85% of the total available exhibition space had been committed within 30 days of the original offering.

QM Announces New Inspection Testing Procedure. Suppliers of the Army Quartermaster Corps will no longer have acceptance testing done by the General Testing Laboratories of the QMC at Philadelphia. Contractors will be required to have inspections made at their own labs, or by commercially operated facilities. Certificate of compliance, with test results, must be submitted, and the QMC will spot-check. Detailed procedures, not yet worked out, will be announced by the Quartermaster General Purchasing Office at a later date.

"Azoton" Proposed as Name for Cyanoethylated Cotton. The Institute of Textile Technology has proposed "azoton" as the name for the cyanoethylated cotton products developed at the Institute by reaction of cotton with acrylonitrile [see TEXTILE INDUSTRIES, October, 1953, pp 138A-138D, 188]. The name is derived from the chemical prefix "azo-," denoting a nitrogen-bearing compound, and "-ton" from cotton.

Automatic Cloth Straightening Machine Announced by Fieldcrest. Fieldcrest Mills, Inc., has developed a device for straightening cloth automatically as it passes through the finishing process. Heart of the device is a number of photo-

American Mills Unjustly Criticized—Forbes

(This letter appeared in the October 18, 1954, edition of "The Atlanta Constitution," an Atlanta, Ga., newspaper, in the "Pulse of the Public" column, under the headline "U. S. Subsidized Japanese And German Mills By Giving Them New Textile Machinery.")

Atlanta—In your editorial, "Why Should Taxpayers Subsidize Inefficiency?" you have, I think, unjustly criticized the American textile industry.

Your editorial implies—or charges—that while the Japanese and German textile industries were modernizing and rehabilitating their plants after the war, many American textile mills failed to do likewise and that our industry, now suffering from the competition (in our home markets) of these foreign manufacturers, is begging for a "subsidy" in the form of more adequate tariff protection.

The facts are these:

1. The Japanese and German textile industries were completely modernized and rehabilitated after World War II by financial aid and equipment contributed by our government and by the assistance of American technicians. Who paid for this new machinery for our foreign competitors? The American taxpayers (including American textile mills) "subsidized" them.

2. While the best and newest of textile machinery was being manufactured and shipped to those foreign textile manufacturers, on priority and under orders from our national government, American textile manufacturers were begging for delivery of the new machinery to replace that which they had worn out during the war, producing textile uniforms and equipment for the use of our armed services who were fighting against both Japan and Germany. But deliveries to American mills were delayed from two to five years while Japanese and German mills obtained prompt delivery.

In far too many instances these foreign mills were shipping their goods (produced by the new machinery furnished by American taxpayers) into the United States to undersell the goods produced by American mills, many of whom were still waiting on the new machinery which they had ordered. Unfortunately, our industry was plunged into a severe depression — augmented and aggravated by competition from the American-taxpayer-subsidized foreign manufacturers—and were not able to buy new machinery after it became available to them.

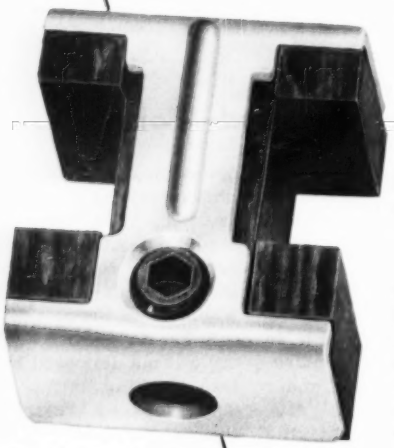
3. The Japanese textile industry was not destroyed by American bombing during the war. The Japanese destroyed it themselves, broke up the machinery and melted it for munitions. They needed the metal more than they needed textile yarns and fabrics.

4. Even if every American textile mill were equipped with the newest and best textile machinery in the world, we still could not compete with Japanese manufacturers who pay their textile mill workers less for a whole day's work than an American textile worker earns in a single hour, and, for a long time, we gave them the raw cotton too! The goods produced by that cheap labor is pouring into the United States in an ever-increasing flood, over practically non-existent tariff barriers.

T. M. FORBES,
Executive vice-president,
Cotton Manufacturers Assn.
of Georgia

FROM LITTLE CAP BARS

BIG High Draft Spinning Profits GROW



Roberts Company is the only manufacturer making all of the components of a complete drafting system changeover including No-Oil Cap Bars and Saddles. Roberts Company is the only changeover manufacturer that CAN *and* DOES *stand in back of its complete drafting system package.*

Any type of High-Draft Spinning requires positive alignment of top and bottom rolls plus adjustable spacing of front and middle top rolls to a positive setting.

Only CAP BARS can provide those two requirements — POSITIVELY! Don't take the risks required by the variety of alignment gadgets on the market, when Roberts No-Oil Cap Bars and Saddles are the only sure guarantee of POSITIVE alignment and spacing of top and bottom rolls. Roberts No-Oil Cap Bars and Saddles eliminate 90% of the problems formerly encountered with cast iron cap bars, provide all the benefits and savings of elimination of top roll oiling, and provide the weight distributions needed for successful high draft.

Cost-wise, Roberts No-Oil Cap Bars and Saddles with Hardened Steel Solid Top Rolls are much lower in first cost, roll cots are buffed more accurately and cheaper, and replacement parts cost a fraction of the gadget systems.

Roberts Company has equipped more than 1,400,000 spindles with the Roberts High-Draft System. It is the simplest to install and to maintain; it is the system most familiar to the spinners themselves; it is the most gadget-free high-draft available, and is the lowest in cost.

Switch to . . **Roberts High-Draft Changeovers**

ROBERTS COMPANY
Sanford, North Carolina, U. S. A.

electric cells, which respond to fluorescent marks embedded in the cloth. Any misalignment of the marks, which are normally invisible, actuates a weft straightening apparatus. The system has been in use for two years in Fieldcrest's own finishing mill, and will be manufactured and sold by Cook P & N Machine Co.

Sweden Places Cotton on Free List. Sweden has placed cotton on its free import list. The action removes all exchange and other restrictions on cotton imports. Sweden's import statistics for 1953-54 show imports of 44,000 bales (of 500 pounds) of United States cotton out of a total of 128,000 bales from all sources.

Stockings Now Available in Hungary. Hungarian-made Perlon stockings are now on the market, reports the Hungarian News and Information Service. The Budapest Stocking Factory is this year making 250,000 pairs of stockings, ankle-length socks, men's socks, and children's three-quarter length stockings from Perlon. In 1955 output will be increased so that almost everyone can have a pair.

MERCHANDISING NOTES

American Viscose Corp. urges establishment of a workable fabric certification program based upon the American Standards Association's L-22 minimum end use requirements for rayon fabrics. Suggestion was contained in a letter written by Harry L. Dalton, Avisco vice-president, and released by the Textile Distributors Institute.

Gibbs Underwear Co. reports that gross sales for the first 8 months of 1954 were 10 per cent above sales for the comparable period of 1953, although this has been "admittedly a poor textile year." W. M. Heilman, Gibbs' president, attributes the increase to "aggressive, imaginative styling, the addition of a popular new knitted sleep-wear line, the advent of a seasonal stimulus, continuing bumper crops of babies and an overall improved economy." Gibbs will enter the lingerie field in 1955 with a line of tricot items.

Pacific Mills has introduced a Type 200 mercerized combed percale, which it will call "Miracale." Advertising kickoff began with the November 15th issue of *Life*.

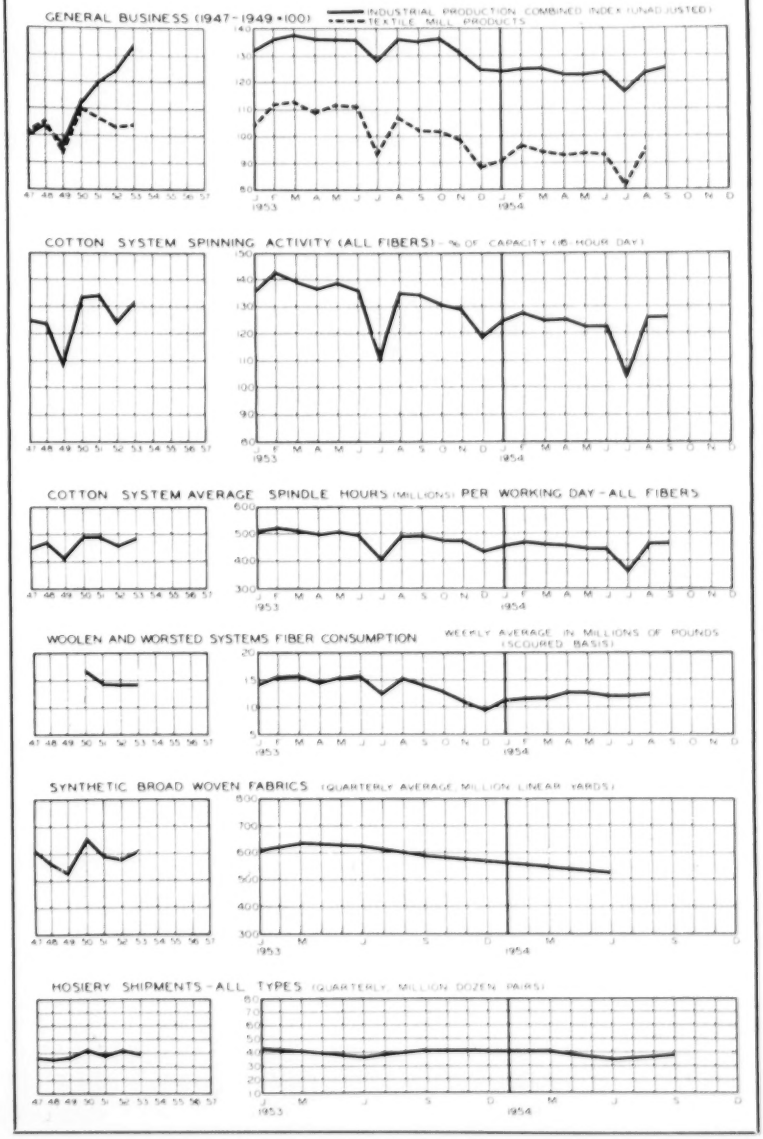
Pepperell Mfg. Co. drew over 50,000 replies when TV-star Arlene Francis briefly announced that viewers sending in their names would have a chance to win a pair of fitted nylon sheets when 50 of the names were drawn from a hat. The response is all the more remarkable when it is considered that the announcement was made only once, briefly, was not given any further publicity, and the offer was comparatively modest, involving only two sheets worth about $10.

(More News Briefs on page 229)

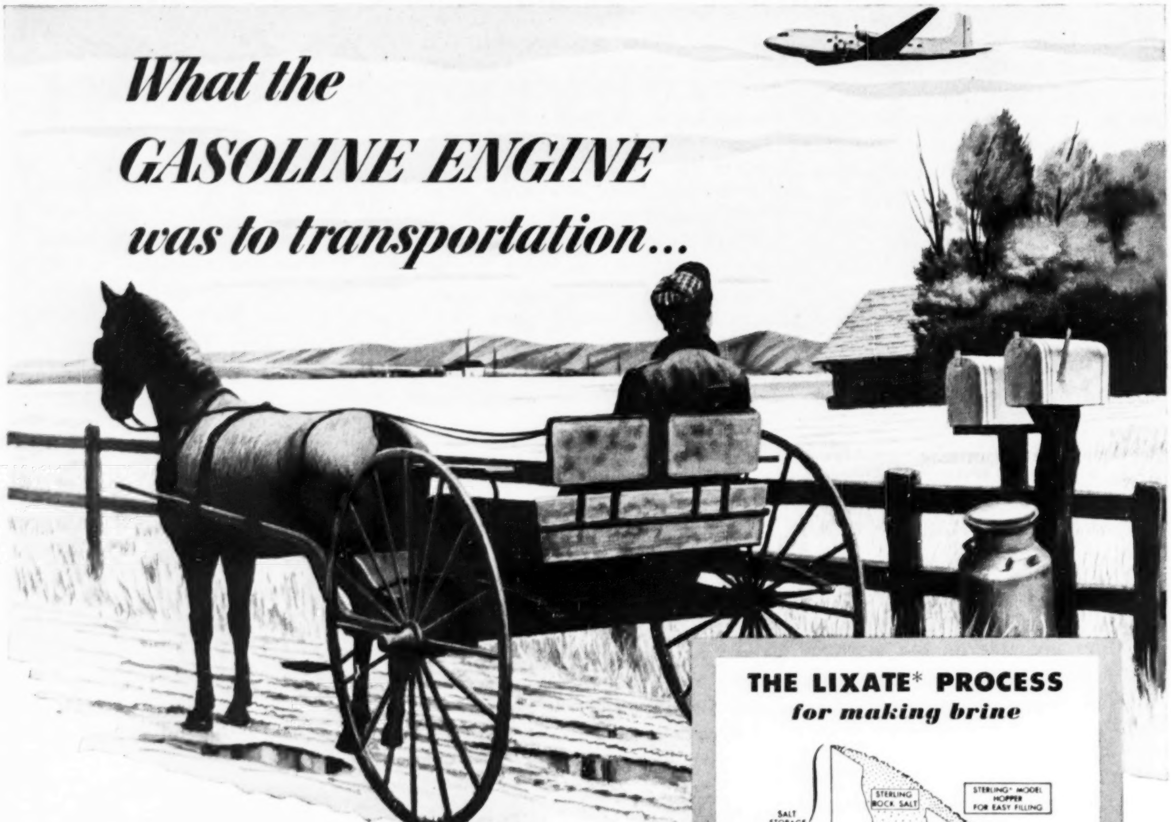
News in Brief

Textile Industry Activity Charts

Source of information: Bureau of the Census, U. S. Department of Commerce; National Association of Hosiery Manufacturers.


GENERAL BUSINESS (1947-1949=100)
INDUSTRIAL PRODUCTION, COMBINED INDEX (UNADJUSTED)
TEXTILE MILL PRODUCTS
COTTON SYSTEM SPINNING ACTIVITY (ALL FIBERS) - % OF CAPACITY (45-HOUR DAY)
COTTON SYSTEM AVERAGE SPINDLE HOURS (MILLIONS) PER WORKING DAY - ALL FIBERS
WOOLEN AND WORSTED SYSTEMS FIBER CONSUMPTION
WEEKLY AVERAGE IN MILLIONS OF POUNDS (SCOURED BASIS)
SYNTHETIC BROAD WOVEN FABRICS (QUARTERLY AVERAGE MILLION LINEAR YARDS)
HOSIERY SHIPMENTS - ALL TYPES (QUARTERLY, MILLION DOZEN PAIRS)
1953
1954

What the GASOLINE ENGINE was to transportation...



The LIXATE PROCESS is to BRINE making!

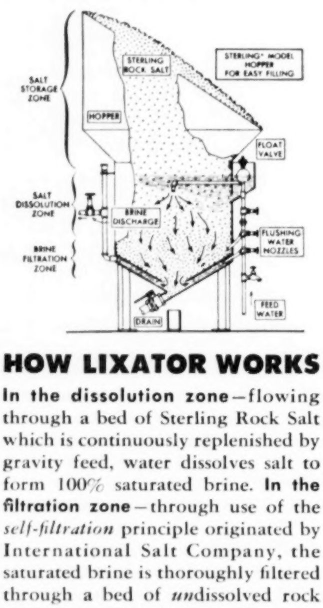
SINCE the *original* Hector was a pup, making brine has been a crude process, haphazard, uncertain – and virtually *unchanged* in two thousand years.

But now, sir . . . you can get out of the Dark Ages – *fast!*

Today, with the LIXATE Process, you merely turn a valve and there's your brine – *when* you want it – *where* you want it – *automatically* made – always 100% saturated, precisely 2.65 pounds of salt per gallon. No storage. Pipeline distribution.

Hundreds of companies have already saved thousands of dollars while improving the quality of their products – simply by installing the LIXATE Process and the LIXATOR (both developed by International Salt Company). Let International's Industrial Division tell you all about it. And *show* you, too.

THE LIXATE* PROCESS
for making brine



HOW LIXATOR WORKS

In the dissolution zone – flowing through a bed of Sterling Rock Salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. **In the filtration zone** – through use of the *self-filtration* principle originated by International Salt Company, the saturated brine is thoroughly filtered through a bed of *un*dissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

*Reg. U. S. Pat. Off.

INTERNATIONAL SALT CO., INC.
Scranton, Pennsylvania

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Send this coupon – *today!*

INTERNATIONAL SALT CO., INC., INDUSTRIAL DIVISION, SCRANTON 2, PA.
Without obligation, please have an International Industrial Engineer call to show me what the Lixate Process and Lixator can do for MY plant.

My Name ____________ *Title* ______

Firm Name ____________

Address ____________

City ____________ *Zone* ____ *State* ____

AN EXECUTIVE *Views*

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

FOR SOME reason, we have the feeling that one of the current campaigns to combat the influx of foreign-made textile goods is not going to be very successful. We would not think of spreading this opinion over the front pages of the various daily papers, but we think it can be said in this particular spot because this is a family affair and we are talking within the family circle.

Buy American? ? ?

What we have reference to is the campaign to try to induce the American people to buy nothing but American-made textiles. That may sound like treason, but please keep in mind that what we are saying is that we doubt that this plan will *succeed*. We are *not* saying that people should buy *foreign-made* textiles. We are not questioning the motive back of the plan but only its effectiveness.

Recently we saw a poster which admonished all and sundry to buy only American-made textiles, and we stood off at a distance and tried to look at this poster through the eyes of some one not connected in any way with the textile industry. After a few minutes of this objective gazing, we came to the conclusion that most such people might be somewhat angered over the fact that we are trying to tell them what to buy. We are suspicious that some times these "suggestions" have a habit of ricocheting and doing more harm than good.

An extremely sound and completely honest argument can be made for the textile industry's position on the tariff question, and for that reason we are doubtful of the value of these diversionary tactics which seem to us to becloud the issue. No product has ever found lasting success which was marketed on a purely patriotic motif. If this be treason, then you may have us investigated by the McCarthy Committee.

Employee Relations

One of the best pamphlets or booklets we have seen recently was that which commemorated the Twenty-Fifth Anniversary of Rock Hill Printing and Finishing Company at Rock Hill, South Carolina, called "Twenty-Five Years of Progress—Quality." This brochure tells the story of the founding of this gigantic enterprise in 1929.

The Rock Hill mill is described in the publication as being the "world's most modern finishing plant" and as the largest of its kind in the world. It employs 3,300 people and finishes more than 2,000,000 yards of goods daily. Ninety per cent of the supervisory and executive personnel came up "through the ranks," and this in itself is a record of which any mill might well be proud.

It seems to us that this attractive booklet is an excellent example of good employee and community relations.

More GATT

Several months ago we had some rather harsh things to say about the General Agreement on Tariffs and Trade. We explained that, in our opinion, about the only thing that had resulted from GATT was the "selling down the river" of the American taxpayer.

Comes now the news that a few weeks ago practically every organization in the textile and clothing field lashed out at this same disagreement in testimony before the Committee for Reciprocity Information. Included in this group was the American Cotton Manufacturers Institute, Inc., Textile Export Association, The Thread Institute, National Association of Wool Manufacturers, Association of Cotton Textile Merchants of New York, National Association of Cotton Manufacturers, Work Glove Institute, the Underwear Institute, and others.

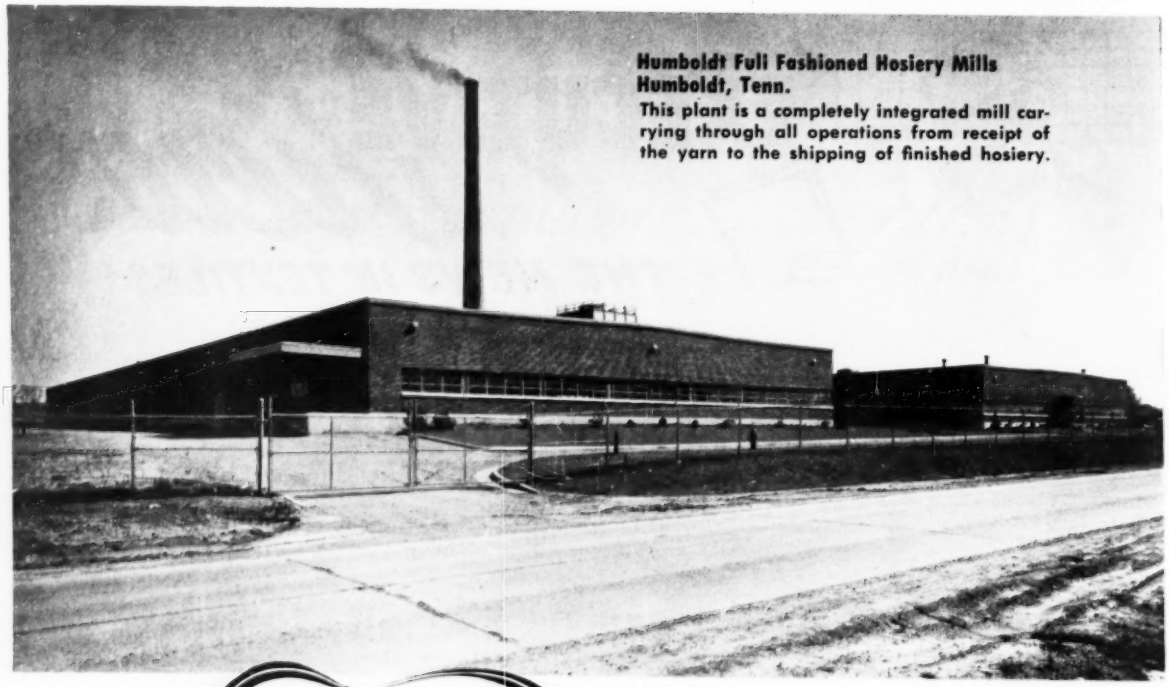
Not for one moment do we claim that what we had to say about GATT inspired these various organizations to testify as they did, but we do want it emphasized that this is evidence that we are traveling in good company.

Government Purchasing

Speaking in Boston recently, Lieutenant-Colonel Millard J. Miller, Chief of the Textile Purchasing Branch of the Philadelphia Quartermaster Depot, intimated that there might be some increase in government purchases of textiles for fiscal year 1955. From his remarks, however, it appears that most of this increase might be attributed to the change-over to the new type of woolen uniform.

Colonel Miller's remarks also showed what a tremendous drop there has been in government purchases over the last year or two. He stated that for the fiscal year ended June 30, 1953, the government had spent $285 million on textiles, while for fiscal 1954, this had plummeted to $30 million.

Also in Boston and this time in connection with a meeting of the Quartermaster Association, the point was made by a textile manufacturer who had written to the Corps that sometimes the govern-



Humboldt Full Fashioned Hosiery Mills
Humboldt, Tenn.
This plant is a completely integrated mill carrying through all operations from receipt of the yarn to the shipping of finished hosiery.

LOCKWOOD GREENE
Projects
in
KNIT GOODS

Lockwood Greene has completed over 300 engagements in the Knit Goods field and has had over 4,000 engagements in the entire textile field.

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ARCHITECTS - ENGINEERS

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40 Central Street

NEW YORK 20, N. Y.
10 Rockefeller Plaza

SPARTANBURG, S. C.
Montgomery Building

Union Underwear Co. (Taylor Mfg. Co.), Campbellsville, Ky.
This new plant is the last word in production efficiency from receipt of yarn at rear end of lower floor thru knitting and bleaching to upper floor for cutting, sewing, pressing, boxing and shipping at upper floor platform shown.

ment takes an unduly long time to make payment for goods delivered on government contracts. This, said the manufacturer, amounts to taking an unearned discount because interest is denied.

On the other hand, it was noted that if you were late in making a tax payment to the government that the government always levied interest against you. What remedy, said the manufacturer, is available to the supplier? Government representatives answered this by claiming that checks are mailed on an average of less than twenty days after shipment of the goods by the mill.

Several other questions which were asked, as reported in the press, combined with conversations we have had with mill men over the past several months, indicate to us that more and more textile mills are becoming more and more reluctant to take government contracts on any basis. While all of them whom we have heard mention the subject speak in the highest terms of the representatives of the Quartermaster Corps, they feel that the endless red tape, the confusion, and the threat of both renegotiation and Walsh-Healey are terribly discouraging to the prospective bidder. We have a friend in the paper business who tells us that mills in his industry are coming around to the same thinking.

If this is true—and it is certainly the way we feel about it—then something must be done to correct the situation. The fate of this country may lie in the hands of American industry if the world again goes to war and manufacturers must perform "practice orders" in peace time so that they may be ready in time of war.

Additionally, if all government purchasing is concentrated with a few companies, the competitive factor is going to be reduced considerably and once again that old whipping boy, the American taxpayer, is going to take a licking.

This particular writer has never participated in the work of the Quartermaster Association, but if the purpose of the group is to bring about a closer understanding between the military and between industry, then it has certainly chosen a fertile field in which to work.

We heard one mill man say something like this the other day: "The government says if you take a government contract you have to pay different wage rates to the people working on the government goods, you have to maintain a dif-

(Continued on page 233)

Dec. 2-7 — 21st National Exposition of Power and Mechanical Engineering, Commercial Museum, Philadelphia, Penna.

Dec. 2—Annual meeting, **Rhode Island Section, AATCC,** Sheraton Biltmore, Providence, R. I.

Dec. 2—Meeting **Hudson-Mohawk Section, AATCC,** Albany, N. Y.

Dec. 3—Meeting **Pacific Southwest Section, AATCC,** Gourmet Restaurant, Beverly Hills, Calif.

Dec. 3—Meeting **Philadelphia Section, AATCC,** Kugler's Restaurant, Philadelphia, Pa.

Dec. 4—Meeting **South Central Section, AATCC,** Hotel Patten, Chattanooga, Tenn.

Dec. 8—Meeting **Washington Section, AATCC,** Pepco Auditorium, Washington, D. C.

Dec. 10—Meeting **Western New England Section, AATCC,** Rapp's Restaurant, Shelton, Conn.

Dec. 10—Meeting **Northern New England Section, AATCC,** Woodland Golf Club, Auburndale, Mass.

Dec. 11—Meeting **Southeastern Section, AATCC,** Atlanta Biltmore Hotel, Atlanta, Ga.

1955

Jan. 14—Meeting **Western New York Section, AATCC,** Buffalo, N. Y.

Jan. 24-27—Plant Maintenance and Engineering Show, International Amphitheatre, Chicago, Ill. Held in conjunction with conference at Conrad Hilton Hotel.

Jan. 24-28—International Heating and Ventilating Exposition, Commercial Museum and Convention Hall, Philadelphia, Pa.

Jan. 27-29—Annual conference, Textile Div., American Society for Quality Control, Clemson (S.C.) College.

Jan. 28—Meeting **New York Section, AATCC,** Georgian Room, Hotel Statler, New York, N. Y.

Jan. 31-Feb. 1—Annual convention, National Cotton Council of America, Hotel Shamrock, Houston, Texas.

Feb. 16-18 — Cotton Research Clinic, sponsored by the National Cotton Council, Pinehurst, N. C.

Mar. 10-11—Annual meeting, **Textile Research Institute,** Hotel Commodore, New York, N. Y.

Mar. 31-Apr. 2—Annual meeting, American Cotton Manufacturers Institute, Palm Beach (Fla.) Biltmore Hotel.

April 7-9—52nd annual convention, **Phi Psi Textile Fraternity,** Lowell Technological Institute, Lowell, Mass.

April 13-15—50th anniversary meeting, **Alabama Cotton Manufacturers Association,** Hotel Buena Vista, Biloxi, Miss.

April 25—Annual meeting, **National Association of Hosiery Manufacturers,** Claridge Hotel, Atlantic City, N. J.

April 25-26—Hosiery Industry Conference, Claridge Hotel, Atlantic City, N. J.

April 25-29—Knitting Arts Exhibition, sponsored by N.A.H.M., N. K. O. A., and Underwear Institute, Atlantic City (N. J.) Auditorium.

April 27-29—55th anniversary convention, **Cotton Manufacturers Association of Georgia,** Boca Raton Hotel & Club, Boca Raton, Fla.

May 4-5—Spring meeting, **The Fiber Society,** Alabama Polytechnic Institute, School of Textile Technology, Auburn, Ala.

June 16-18—Annual convention, **Southern Textile Association,** Mayview Manor, Blowing Rock, N. C.

June 16-20—Materials Handling Exposition, International Amphitheatre, Chicago, Ill.

June 25-July 10—International Textile Exhibition, Brussels, Belgium.

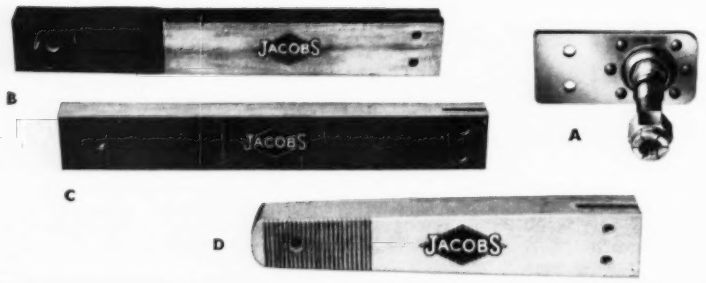
Sept. 8-9—Fall meeting, **The Fiber Society,** Massachusetts Institute of Technology, Cambridge, Mass.

Sept. 22-25—National convention, **AATCC,** Chalfonte-Haddon Hall, Atlantic City, N. J.

Sept. 29-30—101st annual meeting of **National Association of Cotton Manufacturers** and 3rd annual meeting of **Northern Textile Association,** Wentworth-by-the-Sea, Portsmouth, N. H.

Sweepsticks and Connectors

by JACOBS *For Maximum Loom Efficiency*



A. VAN-DAR HEAD

A replaceable rod end bearing for all types of JACOBS sweepsticks. Allows close fit on pick arm stud and avoids hole elongation to give a pick that is absolutely even. Heads and bodies are individually replaceable.

B. RUBBERWELD

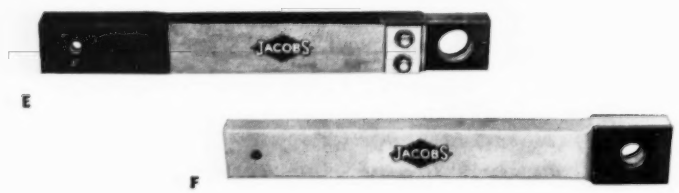
Patented construction of chemically bonded plyweld and neoprene gives the smoothest, most resilient pick known to the industry.

C. RUBBERIZED FABRIC

Molded rubber combined with fabric. Uniform consistency assures maximum strength and length of life.

D. HICKORY

Made of highest grade stock. Economical and long-wearing.



E. RUBBERWELD (with plastic head)

Has removable head of high-impact plastic. Body is long-wearing, resilient, and replaceable.

F. REINFORCED CANVAS

High quality Army Duck reinforced by plastic blocks on each side of stud hole for long wear.

The Bullard Clark Company

SOUTHERN DIVISION Charlotte, N. C.

JACOBS

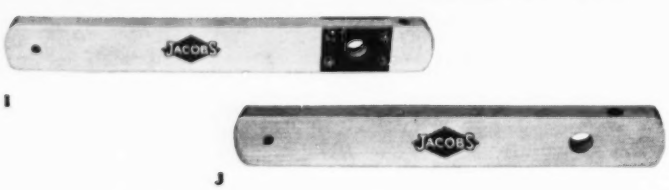
NORTHERN DIVISION Danielson, Conn.

G. RUBBERIZED FABRIC

Molded cloth and rubber. Reinforced at stud hole by plastic plates and built up at lug hole for improved performance.

H. LAMINATED

Constructed of highest quality Plyweld or Pakweld, in regular design or streamline style for lighter weight.



I. REINFORCED HICKORY

Made of highest grade hickory with fiber reinforcements at the stud hole for longer wear.

J. HICKORY

Highest grade hickory but without reinforcements. The most inexpensive sweepstick of the JACOBS line.

JACOBS *Can solve ANY Sweepstick or Connector Problem!*

NEW Equipment AND MATERIALS

3-Stage Slasher Friction Replaces Old without Changing Drive

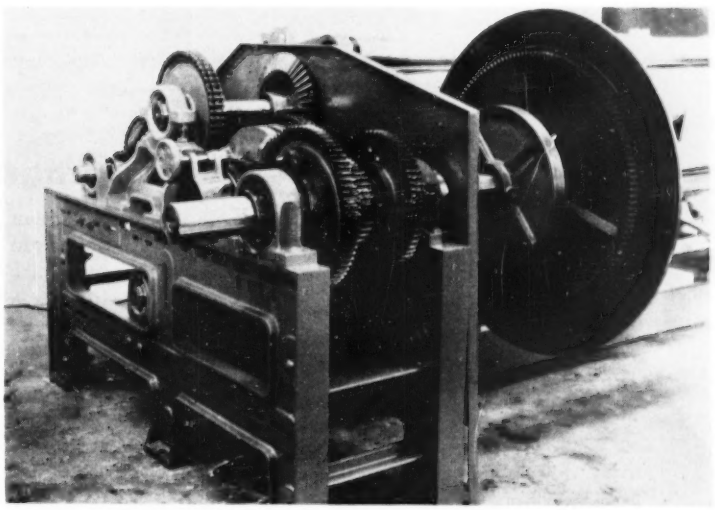
The problem of inadequacy of conventional slasher frictions as a result of today's increased operating speeds and large loom beams can be solved by the West Point three-stage friction without the high cost of replacing existing drives such as cone pulleys and variable speed transmissions.

The three-stage friction makes a good, firm beam up to 32" in diameter without requiring the slasher tender to adjust weights or handwheels as the diameter of the beam increases. It is a neat-appearing, smooth-operating mechanism, made of rugged precision parts. The entire mechanism is mounted in ball bearings. A 3" diameter arbor provides a rigid support for heavy beams.

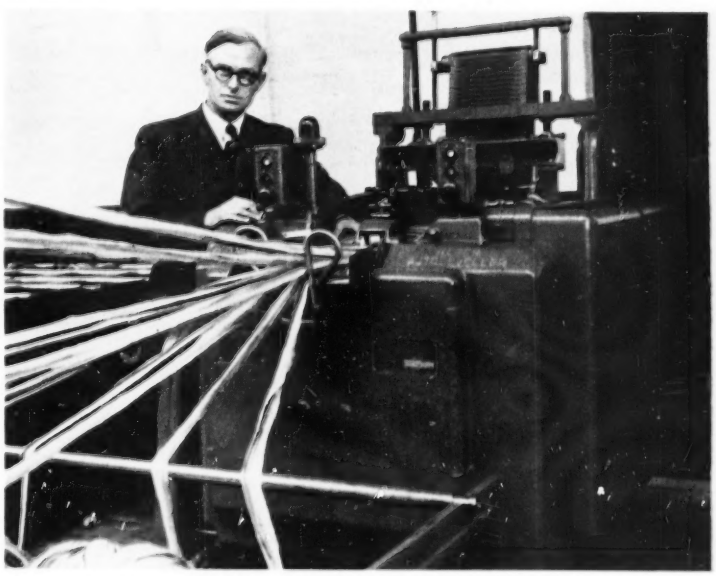
As the name implies, this drive is three frictions in one, each geared to the beam arbor at a different ratio. As the beam turns, the second and third stages engage automatically at predetermined beam diameters to maintain tension and to reduce the heating and power loss that is inherent in the conventional friction.

West Point Foundry & Machine Co., West Point, Ga.

For additional data, request item L-123, using Handy Return Card on page 201.



The West Point three-stage friction for slashers.



Raper Autoleveller for worsted system processing (Atkinson, Haserick).

Worsted Drawing Machine Halves Processing

The Raper Autoleveller, a new type of worsted yarn drawing machine, reduces by half the number of processes required to obtain yarn of even thickness.

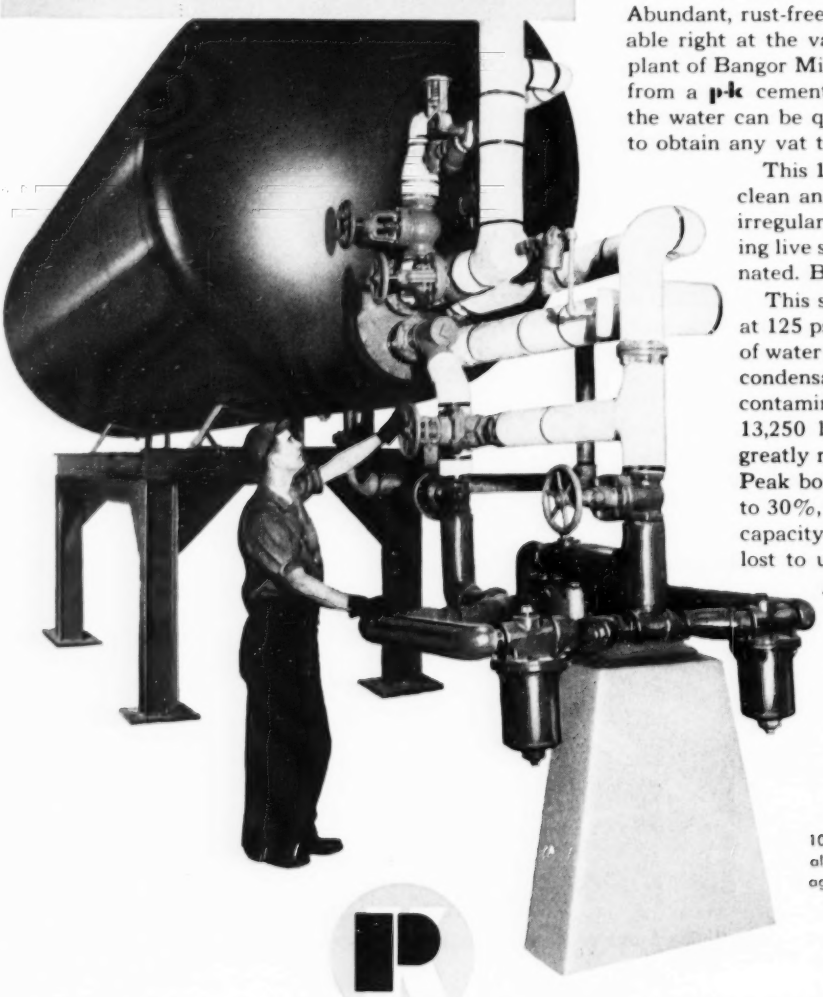
It consists of three principal mechanisms.

The first is a pair of rollers which feel the thickness of the wool sliver passing between them and pass on this reading to the second mechanism, which is a "memory" device. The object of this is to allow for a lapse of time between the measurement of the sliver and the application of the corresponding speed correction which must take place when the part of the sliver in question ar-

Now

BANGOR *Mills inc.*

gets
clean, rust-free, hot water
without waiting
from a p-k cement-lined Storage Heater



Abundant, rust-free water at 190° F. is always available right at the vat for dyers at the Nylon Tricot plant of Bangor Mills, Inc., Pen Argyle, Pa. Supplied from a **p-k** cement-lined hot water storage heater, the water can be quickly tempered with cold water to obtain any vat temperature from 190° F. to 60° F.

This 100% rust-free water is absolutely clean and cannot soil fabrics. The spotty, irregular dyeing that results from injecting live steam into cold water is also eliminated. But that's only the beginning . . .

This single **p-k** unit, working on steam at 125 psi heats as much as 10,000 gallons of water per hour from 40° to 190°. Cooled condensate is also returned clean and uncontaminated to the boiler at a rate of 13,250 lb. hourly, conserving water and greatly reducing formation of boiler scale. Peak boiler demand is also reduced 20% to 30%, a relative increase in steam plant capacity and a saving in fuel otherwise lost to uneven heating demand.

An inexpensive **p-k** cement-lined hot water storage installation can give *you* these savings—this added efficiency, too. Write today for full information.

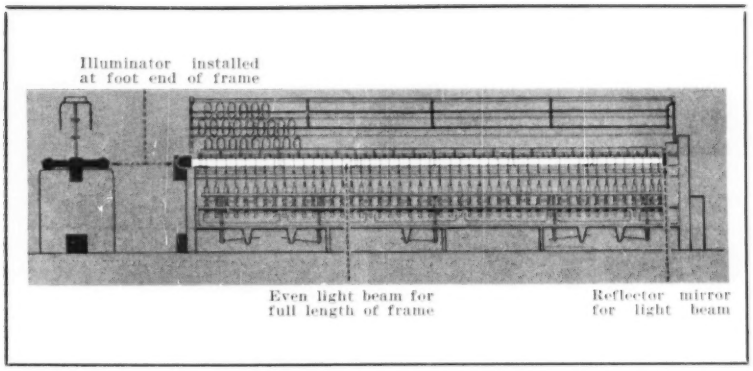
10,000 gallons of rust-free water at 190° F. is always available from this **p-k** hot water storage heater at the Bangor Mills plant.

The Patterson-Kelley Co., Inc.

1220 Wilson Avenue, East Stroudsburg, Penna.

2523

101 Park Avenue, New York 17 • Railway Exchange Building, Chicago 4 • 1700 Walnut Street, Philadelphia 3 • 96-A Huntington Avenue, Boston 16 • and other principal cities.



Twin Beam thread illuminator for spinning frames (McGlynn Hays).

rives at the drafting zone.

The third part of the apparatus is the speed variator which is actuated by the memory device and alters the draft in the machine according to the measurement taken by the thickness measuring rolls. Thus the variations in the entering sliver are automatically corrected when passing through the machine.

By the Raper drawing system hand-knitting yarns can be made in three drawing operations. Hosiery and medium count weaving yarns can be made in four operations. Very fine weaving yarns can successfully be made in five. Further, there is a big saving in labor, floor space, and maintenance costs, and much less waste is produced. Yet despite all these economies, it is claimed that the amount of count variations in the yarn is actually below normal.

Sole manufacturers: Prince-Smith and Stells, Ltd., Keighley, Yorkshire, England. Agents in the United States: *Atkinson, Haserick & Company, 211 Congress Street, Boston, Mass.*

For additional data, request item L-127, using Handy Return Card on page 201.

See Broken Spinning Ends Quickly with this Device

The Twin-Beam thread illuminator for spinning frames projects a horizontal beam of light from one end of the machine to the other above the spindles, providing these advantages:

(1) Early detection of end breakage resulting in saving of raw material and in increased effective operating time per spindle;

(2) Very fine yarns, white or colored, appear thicker;

(3) Operatives' concentration is improved because eye strain is eliminated and gaps due to breakages are seen at greater distances;

(4) Slubs or other faults due to uneven sliver are more quickly noticeable;

(5) When doffing or changing counts, it facilitates inspection to insure uniform tension and even spinning on all ends;

(6) A reduction in cost and use of general lighting.

For installation on existing and new frames, the Twin-Beam thread illuminator consists of a single lamp box connected by square section tubes to reflector heads fitted with mirrors and lenses, through which beams of light are projected to illuminate the ends along the whole length of both sides of the spinning frame. The 3½" light beam is concentrated only on the ends and does not illuminate the machine parts. Intensity is evenly maintained from the first to the last spindle by use of the reflecting mirrors at the opposite end of the frame.

McGlynn Hays Industries, Inc., Textile Equipment Div., 71 Rutgers St., Belleville 9, N. J.

For additional data, request item L-116, using Handy Return Card on page 201.

NEW Equipment AND MATERIALS

90" Sheeting Loom Is 20% Faster

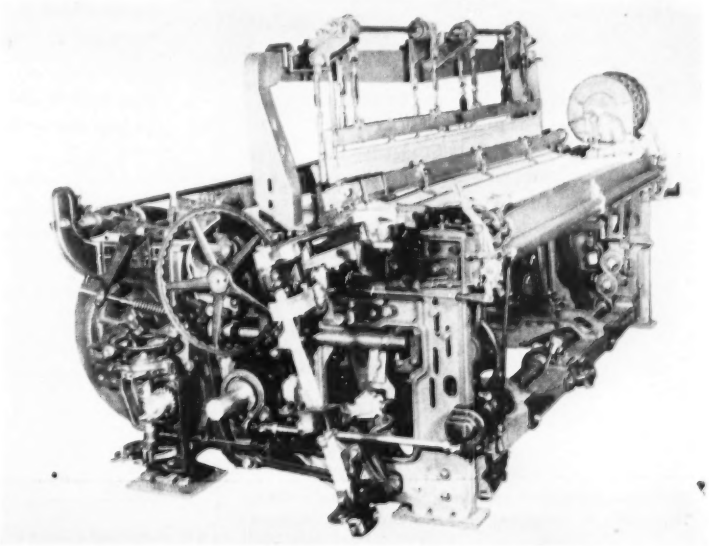
The new Draper model XP-2 90" wide sheeting loom is 20% faster than average sheeting looms now in operation.

Although increase in production was the prime objective in designing this new loom, simplicity of loom operation and ease of loom fixing was taken into consideration.

The cam shaft is in a lowered position to permit the use of a larger one-piece cam which imparts a gradual acceleration to the shuttle, permitting greater shuttle flight control, easier boxing, and reduced wear on pick motion parts.

The lowered position of the cam shaft, together with strengthened loom sides and extra heavy bracing construction throughout, reduces loom vibration. Four cam shaft center boxes and middle girts are used. All large fitting surfaces on the loom

Draper Model XP-2 90" sheeting loom.

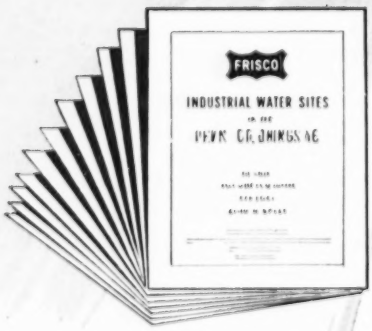


PLENTY of WATER at these Plant Sites

Just published!

Complete analytical water surveys of choice plant sites in the Southeast and Southwest

Industries whose water requirements are exceptionally large will find vital information in a new series of water studies now in preparation by the Frisco Railway. The studies cover industrial sites 50 to 3,000 acres in size, and water capacities from *10 million gallons daily* to as high as *37 billion gallons daily*. Industrial manufacturers planning a new plant or seeking to relocate near abundant water sources will find these studies invaluable.



Each Water Survey Brochure covers a separate potential industrial site, detailing industrial water sources, chemical content, minimum recorded flow, etc. Also shows site and topographical maps, information on utilities, raw materials, roads, rail and highway transportation.

Mail coupon now for these Surveys—no obligation. Or write us your requirements. Your inquiry held in complete confidence.

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Valuable Industrial Site Water Survey Brochures. Authoritative, factual data assembled by the Frisco Industrial Development Department

J. E. Gilliland, Assistant to President—Development
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sides are either milled or broached, permitting more accurate assembly of related parts and reducing the possibility of assemblies becoming loose or out of alignment.

The loom's conventional pick motion has pick shafts made from ductile iron which is a high tensile iron considerably stronger than that regularly used in pick shafts. Pick shaft bearings are ball and socket type.

This loom is equipped with a #6 Draper-Diehl Power Transmitter and a positive frog knock-off from the right hand end. The drive, together with this knock-off arrangement, allows quick starts and positive braking action.

Anti-friction bearings can be furnished in many locations such as treadle rolls, treadles, take-up roll, pillow block bearings for harness roll shafts, yarn beam bearings, vibrating whip roll, whip roll arms, whip roll shaft bearings, rocker shaft bearings, pick ball, filling cam follower hub, protector rod center bearing, bobbin disc, and transferrer. These all contribute to smooth loom operation, higher speeds and reduced part wear.

The adjustable six-bank K. A. electric warp stop motion (cotton type) may be raised, lowered or tilted to suit weaving conditions.

Using a 26" diameter beam, a reasonable loom depth of 64⅛" has been maintained. Operating with a shuttle 18½" long x 2-1/16" wide, a 10⅛" bobbin can be accommodated if desired, on special weaves. Cloth on the cloth roll may have a maximum diameter of 15".

Draper Corp., Hopedale, Mass.

For additional data, request item L-102, using Handy Return Card on page 201.

420-Needle Machines Make Plain Seamless and Micro Mesh Stockings

The United States Hosiery Corp. has been appointed exclusive sales representative in the U. S. A., Canada, Puerto Rico, South America, and Hawaii for W. E. Boonton, Ltd., and Harold Chell & Co., Ltd., of Leicester, England, for the sale of 420-needle seamless machines to make plain seamless as well as micro mesh stockings.

These machines have a 3¾" cylinder, and both machines from the two companies will make the same fabric. They are capable of producing four dozen pairs of stockings per machine in 24 hours.

United States Hosiery Corp., Suite 5119, Empire State Building, 350 Fifth Ave., New York 1, N. Y.

For additional data, request item L-125, using Handy Return Card on page 201.

Picker Lap Tester Shows Longitudinal and Lateral Weight Variations

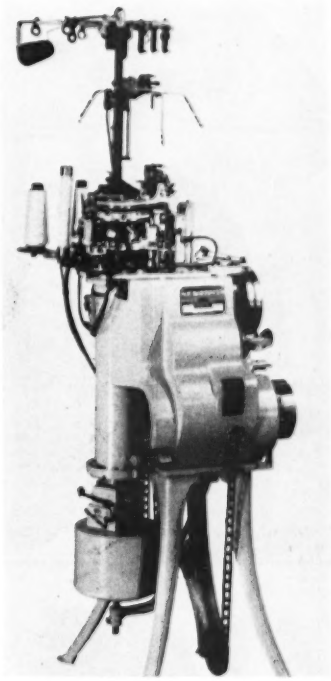
The Brush picker lap tester measures both longitudinal and lateral weight variations of picker lap simultaneously while the lap is being processed without mutilating or destroying the lap.

This instrument, developed in cooperation with the Institute of Textile Technology at Charlottesville, Va., is mounted permanently on the picker where it continuously monitors the lap and indicates the *actual weight minus moisture* on meters. A recorder may be used in conjunction with the instrument to permanently record the lap unevenness and lap weight.

How it operates: Three measuring rollers are brought into contact with

(Continued on page 188)

NEW Equipment AND MATERIALS



Boonton seamless hosiery knitter sold by U. S. Hosiery Corp.

Brush picker lap tester; mounts directly on picker.

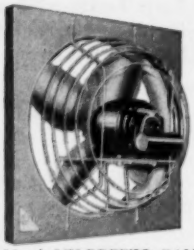
BEST GIFT for your PLANT

DEPENDABLE "BUFFALO" FANS with the FAMOUS "Q" Factor*

TYPE "BL" FANS

In sizes for 1,000 to 500,000 cfm, these new non-overloading fans for general ventilation and air conditioning offer even finer performance than their famous predecessors, the "LL" Fans.

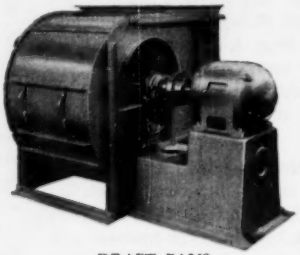
NEW BULLETIN F-100



New! NV-BREEZO FANS

Their specially-shaped four-blade wheel gives high efficiency even against system pressures of ¼" and ½". 8" to 24" sizes.

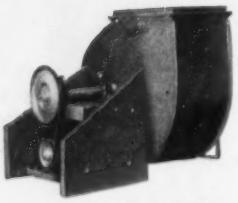
BULLETIN 3865



DRAFT FANS

"Buffalo" mechanical Draft Fans are helping turn out low-cost steam in plants and major utility stations everywhere.

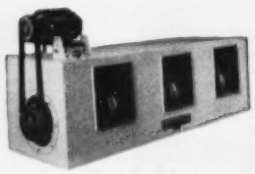
BULLETIN 3750



BELTED VENT SETS

Non-overloading ventilating fans for duct or free air delivery. Extra quiet.

BULLETIN 3720



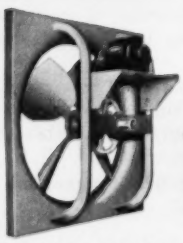
SHORTBOY VENTILATING SETS

Quiet, efficient, vibration-free fans. Wheels mounted on hollow shaft.

BULLETIN 3701

"Buffalo"

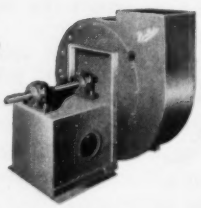
*The "Q" Factor — *The built-in Quality which provides trouble-free satisfaction and long life.*



New! BELT-AIR FANS

Quiet, sturdy fans to move a lot of air at negligible cost. Heavy-gauge die-stamped blades and panel.

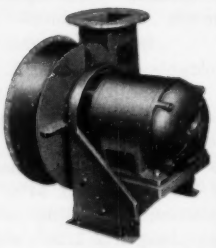
WRITE FOR DETAILS



INDUSTRIAL EXHAUSTERS

All-welded for strength and high efficiency. With air or material wheels.

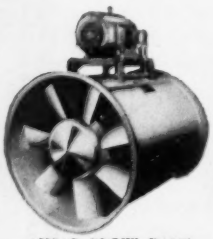
BULLETIN 3576



"CB" PRESSURE BLOWERS

Up to 2¼ psi, single stage with these husky, space-saving units!

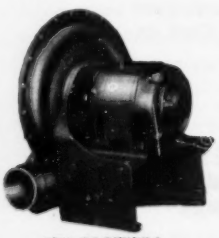
BULLETIN 3553



AXIAL FLOW FANS

Compact, light, highly efficient ventilating fans for light duty.

BULLETIN 3533



"E" BLOWERS-EXHAUSTERS

For low to medium pressures and volumes in draft, cleaning, line boosting.

BULLETIN 3014

VOLUME FANS

Rugged blowers-exhausters with cast iron housings and dust-proof ball bearings for any job up to 10" s.p.

BULLETIN 3615

BUFFALO FORGE COMPANY

175 MORTIMER ST. BUFFALO, NEW YORK

PUBLISHERS OF "FAN ENGINEERING" HANDBOOK

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

Sales Representatives in all Principal Cities

FORCED DRAFT, PRESSURE BLOWING, HEATING, COOLING, VENTILATING, AIR CLEANING, AIR TEMPERING, INDUCED DRAFT, EXHAUSTING

EMPLOYEES HAVE THEIR OWN COMMITTEE FOR

Good Housekeeping

Staff Prepared
EXCLUSIVE

IF YOU haven't tried the system, you'll find that a good housekeeping committee composed of employees from all departments makes for a cleaner mill, or such has been the experience at the Talladega, Ala., plant of Bachmann Uxbridge Worsted Corporation.

Now everyone takes an interest in keeping the mill clean, not just management.

In this photograph you see the good housekeeping committee at work in the winding department, making notes to grade the department according to its findings.

The employees on this committee are a loom fixer, spinning room tape man, overhauler, winder operator, mender, and production clerk. Personnel are rotated every month. The office manager goes along with the committee to serve as secretary and to collect notes; he has no vote.

The committee gives no advance notice of when it will inspect—grades on a strict basis. But the winning department has adequate compensation—time out is taken for free cokes and cookies during working hours.

Take a look at examples of what the committee finds wrong during the inspection tour and see if they are on the ball:

Winding:
Cones on floor
Coke bottles on dispenser
Dirty eating bench; committee suggests a table for this.

Doubling:
Brooms and mop leaning against machine
Coke bottle on frame.

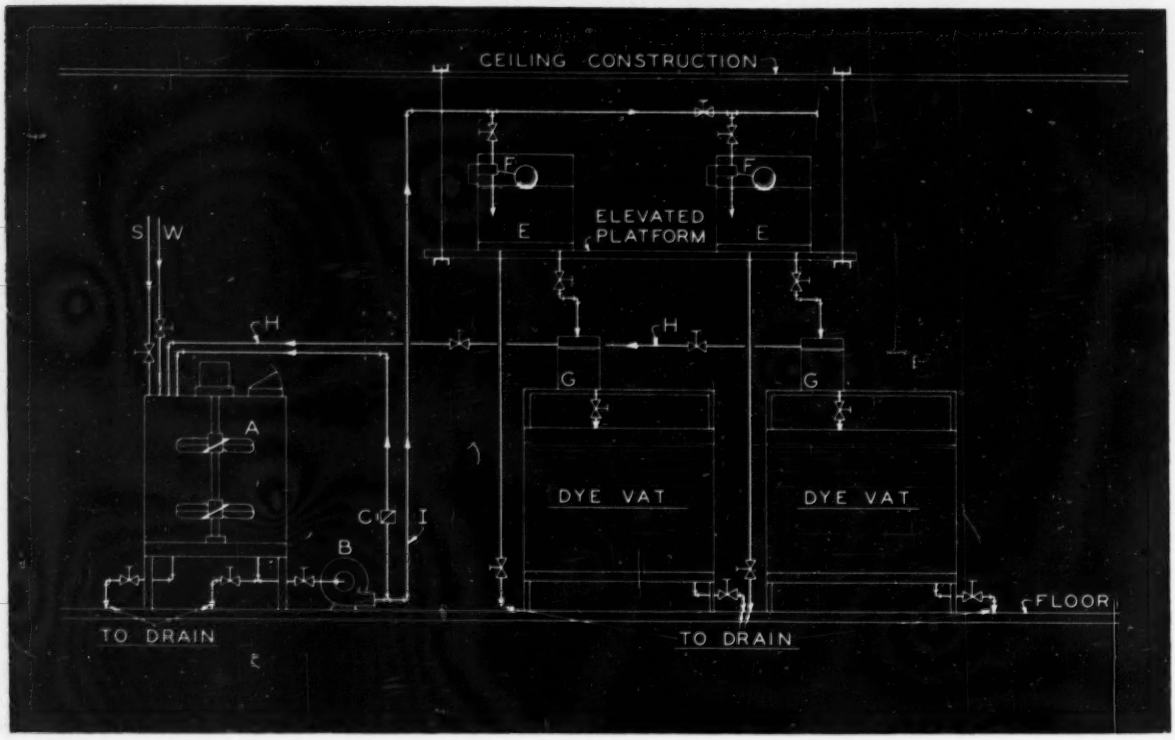
Twisting:
Oil on floor around frames (leaking from motors)
Cuspidors need changing
Trash in drip pans

Dressing:
Birds still have nests on beam over warper
Dismantled winder seems to be catch-all for everything
Mop and broom not in rack.

Spinning:
Trash in smoking area
Coat on bulletin board

Roving:
Needs sweeping under frames
Coffee cups and rubbish on frame
Guard rail loose on one frame

Pin Drafting:
Window rail needs cleaning
Air hose out of place.



CONTROL OF VAT DYE concentration is made easy with this method of mixing and feeding. The dye batches are prepared in tank A and pumped by a small centrifugal pump B into storage tanks E. These are equipped with automatic level controls which start and stop the pump motor C. The controls are set low enough in the tank to prevent overflow under any normal conditions, and a release valve affords further protection. The smaller measuring tanks G have graduated float indicators on their sides, and are equipped with overflow returns H to the mixing tank.

Weaver's of pre-dyed stock (denim, chambray, etc.)— here's how to control

WARP STREAKS

By M. R. Harden

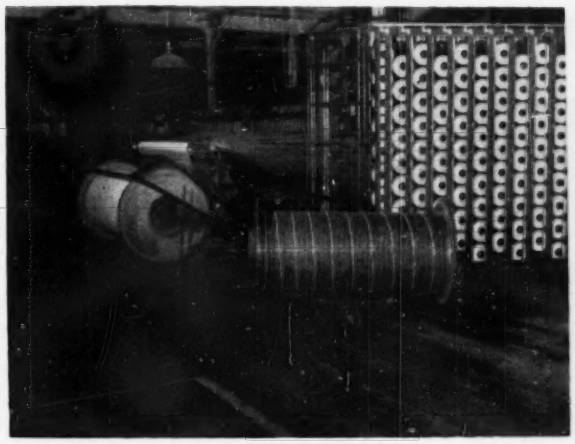
EXCLUSIVE

A MAJOR CAUSE of seconds in denims, chambrays, and other fabrics having a solid field, is warp streaks. We have visited in many garment plants, where cutters have shown us spread after spread of these materials from several manufacturers. We have stood at the end of the cutting table and seen these warp streaks, often running the full length of the table (25 to 30 yd), and in many cases throughout an entire cut. Some of them might have been difficult to detect in the course of normal mill inspections, nevertheless they were there and often resulted in garment seconds.

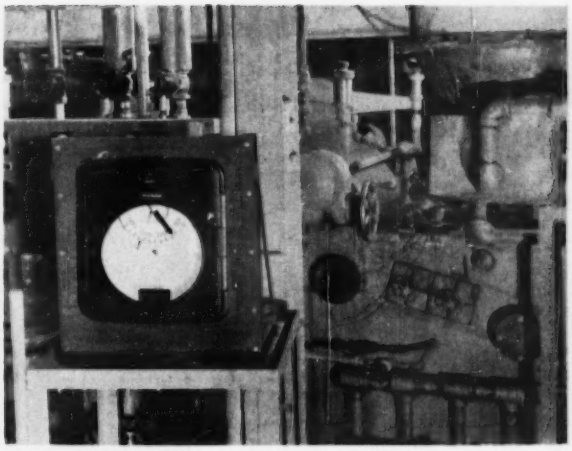
The causes of warp streaks in fabrics manufactured from pre-dyed stock are many and varied. It would be very difficult to cover all of these adequately in a single article, therefore we shall confine our consideration to those which occur most frequently and for which we can offer detailed remedial information.

Cotton

The selection of the proper cotton for these fabrics is of great importance. The axiom, "to start right is to finish right," quite aptly applies here. Strength, cleanliness,



UNEVEN TENSION on cones or cheeses in warping will cause warp streaks. Keep the same tension weights on all ends. Don't use excessive weight on beam journals; be sure that beam heads and journals are kept true, and that beams are properly balanced.



CONTINUOUS RECORDING of reduction potential of vat dye bath gives immediate warning when chemicals become unbalanced, a prime cause of streaks. Recorder is usually mounted in overseer's office.

and abrasion resistance are essential in yarns for work clothing fabrics.

With good cleaning and preparatory machinery, lower grades may often be used to advantage, but "tinges" should be avoided if possible. Tinges cause streaks to appear in the chain warp or on the dye beam, since they do not have the same affinity for bleaches or dyes. These same streaks may be seen after dyeing, in varying degree. If it is necessary to use tinges, the blue, yellow, or whatever tinge is started, should be continued and not mixed, at least until all of one tinge is used. The yarns should never be creeled together. Under the best of controls this is likely to happen, so it is best to avoid these types entirely.

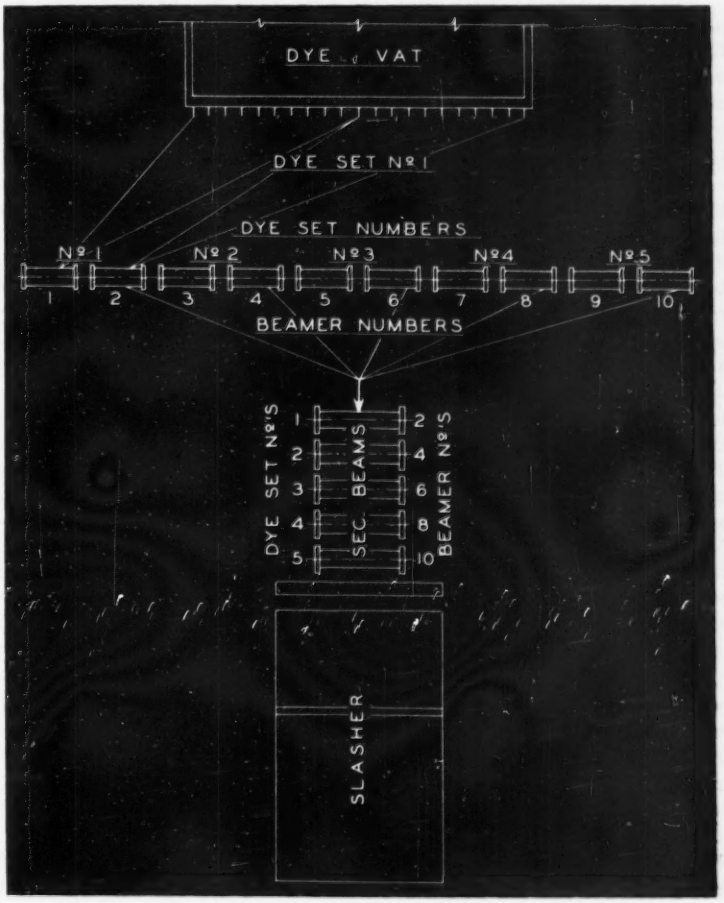
Dyeing

Denims, chambrays, and similar fabrics are usually dyed in raw stock, chain warps, or on perforated dye beams. Indigo, sulfurs, and vats are used.

Raw Stock. The problem of warp streaks in woven cloth is not so common where the warps are spun from raw stock dyed cotton, as compared to the chain or beam dyeing method. On the other hand, the two latter methods are more desirable from an overall cost and quality standpoint.

Raw stock dyeing, of necessity, dyes the waste which has to be extracted. Waste is also more difficult to remove than it is from raw cotton. It therefore follows that there is far greater likelihood of

MIXING WARPS from different dye lots at the slasher helps to prevent warp streaks. Method shown here keeps section beams for the slasher coming from five different dye sets.

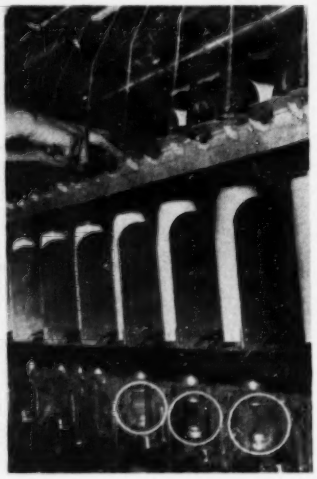


Heavy Whorls Reduce Twister Bobbin Slippage

Novelty twisting onto 12-oz bobbins of upholstery yarns which run from 450 to 2000 yards per pound has been quality improved at Lorraine Yarn Mills, Philadelphia, Pa., by a changeover of spindle whorls and tapes.

Starting with a 1½-in. whorl and ⅞-in. tape, a yarn drag that was considerable developed and required installation of heavy travelers. Bobbin slippage resulted which created a yarn weight control problem.

Whorl diameters were increased to 2½ in. and the tapes to 2 in. wide, resulting in negligable slippage in twisting.



neps and specks showing up on the face of the finished cloth.

Small orders, and the necessity of making up short warp sets of assorted colors, sometimes make it necessary to use the raw stock or beam dye method. Where various colors of filling yarns are required, they must in most cases be spun from raw stock dyed cotton.

Streaks can usually be avoided by dyeing several batches of the same color and storing the baled dyed stock in the warehouse by batch numbers. When this color is required a blend may be made by using a bale from each batch, or at least by "tailing in" and "tailing out" each batch gradually so as to make no marked difference in the shade when changing from one dyeing to another. (This has been common practice in most mills for a long time and the only reason for giving this detailed description of the method employed is for reference later in this article, in connection with the method of running chain dyed warps.)

Where blue denims and certain other fabrics are manufactured, requiring large amounts of sulfur black, sulfur blue, etc., the "standing bath" method can be used to considerable advantage, both costwise and quality-wise. After the first batch is dyed the liquor is pumped into a large storage tank and used again. In each succeeding batch less dye and chemicals are required to obtain the shade. This also aids in keeping the same shade from batch to batch and reduces the possibility of streaks in the cloth. No exact formulas can be recommended, but must be worked out as required by the individual mill.

Beam Dyeing. There are two major causes of streaks in warps when the beam dyeing method is used. These are uneven tensions on the ends in warping, and improper penetration of the dye liquor in dyeing.

In many cases uneven tension is the cause of uneven dyeing of the yarn. When warping from cones or cheeses, the same tension weights should be kept on all ends, and excessive weight should be kept off the beam journals. Care should be exercised to keep the selvages level. The warper tender must be held responsible for this. In order for him to do a good job on selvages the beam heads and journals must be kept true and beams properly balanced.

Many improvements have been made in beam dyeing in recent years, and there are not as many dyeing failures as occurred in earlier experience, when "blowing" and "channeling" were quite frequent. These allowed the dye to pass through a portion of the yarn in great quantity, leaving other areas of varying lighter shades. The result was warp streaks of assorted widths and lengths.

Good softeners have also been introduced for wetting out prior to dyeing. Improved dye machines and beams made of stainless steel have also helped immeasurably.

Chain Dyeing. Long chain dyeing is extensively employed in the manufacture of denims, particularly of indigo blue denims. Practically all of these are dyed on the multi-dip continuous indigo range. Normally there will be 20 to 30 strands dyed at each run.

Some plants use a continuous dye liquor feed to the vats. Some circulate the liquor at all times by means of a small centrifugal pump. Others "spring" (feed or replenish) the vats periodically and agitate the liquor only while "springing." Others agitate very little, depending upon the action of the swifts and warps to keep the vats stirred.

There are several things which can cause warp streaks in dyeing by this process. Some of the most likely causes are: allowing the sodium hydrosulfite and caustic soda to get "out of balance;" inadequate or improper methods of mixing and "springing;" improper wetting out of the warps before dyeing; insufficient or unequal pressure of the squeeze rolls; frequent stopping of the warps in the dye, or allowing them to stand too long in the dye liquor. There are other conditions or occurrences, some of which cannot be foreseen and are often beyond the control of the dyer. In other words, although the dyer may be a very competent man, things will happen from time to time which result in unevenly dyed warps in the same set, or from one set to another.

Recently a new instrument has been marketed which automatically records the reduction potential of the vat dye bath. (See TEXTILE INDUSTRIES. April, 1952, p. 173.) A continuous reading is taken by an electrode attached to the inside of the vat, submerged in the dye liquor, and is recorded on

a chart. From this chart the chemical balance of the vat can be determined at a glance. The recorder may be located some distance from the vat, and is usually mounted inside the overseer's office.

This does not correct the vats but does give prompt warning of the slightest change. Neither does it eliminate the necessity for frequent titration of the liquor, which must be kept up at regular intervals.

Various methods have been used for mixing and feeding the dye solution to the vats. One which we have found satisfactory and which seems to be more nearly foolproof is illustrated in the drawing on page 92. The small measuring tanks are really the key to the solution of proper control of the dye in the vats. These tanks are filled and then entirely emptied into the vats about every 15 minutes under normal conditions. There can be little question about getting the proper proportion of dye and chemicals, nor whether the right amount of solution is added each time, since the full contents are always dumped. This method also prevents the dye spillage which is inevitable when buckets, tubs, portable mixers, etc., are used.

Boiling Off

While there are today many good chemicals and oils on the market for use in boiling out warps before dyeing, care must be taken in their selection. Some may cause the dye to foam, create curds, prevent level dyeing, and in some cases retard penetration rather than aid it. Often, a 1% soda ash boil off, followed by a good cold water rinse is sufficient.

Streaks and unevenly dyed warps are sometimes caused by unequal weighting of the squeeze rolls. These should be checked periodically. Another cause is worn or channeled roll coverings or coverings of varying density. These will allow unequal amounts of dye to remain on the yarns, with streaks showing up after oxidation. Again, there may be little difference in one warp, but with variation in shade from one warp to another in the same run.

In a continuous operation of this kind the dye machines should have periodic cleaning and overhauling, and a good preventive mechanical maintenance program should be carried out. This reduces the necessity for stoppages which might cause heavy streaks in the dyed warp, particularly if the stops are for long periods.

A careful and watchful dye machine operator is also an asset in preventing spoilage and in keeping an operation of this kind running smoothly.

Beaming

We earlier referred to certain physical changes, or occurences, which might cause slight changes in shade. A good dyer in some respects is like a good cook. He may have a complete and thorough knowledge of his work and a high percentage of good results, yet sometimes shades will vary. These changes are often inexplainable.

We may take a cue here from the blending of several batches of raw stock dyed cotton or from the filling mixing loom. In somewhat the same manner the appearance of streaks in the finished product may be obliterated by a system of blending the warp threads at the slasher. The drawing on page 93 illustrates how warps are beamed and loaded on the slasher to accomplish this.

To best carry out this plan it is necessary to keep a good stock of dyed warps on pallets between the dyeing and beaming processes. This may be looked upon as undesirable, in some respects, but the advantages far outweigh the disadvantages. These warps do not tie up so many section beams; they are allowed to cool and condition, and beamers never have to wait on warps.

In the illustration we show how each beamer will select his warps for beaming. For example, beamers Nos. 1 and 2 will run all the warps from No. 1 dye set. While these are being run beamers 3 and 4 will run No. 2 dye set, and so on. This keeps a fairly steady flow of full section beams for the slasher coming from five different dye sets. Insofar as possible, these are loaded into the slasher creels so as not to have two section beams from the same dye set in any one slasher set. We realize that it is not always that easy because the number of warps delivered by the dye range may not be equally divisible by the number of warps required for a given slasher set.

Our illustration shows the normal 20 warp strands from the dye vat, 10 beamers, and five beams required for the slasher set, simply for clarity in the explanation of the ideal blend. In practice it is sometimes necessary to use two section beams from the same dye set in loading the slasher, but we have found that this still gives us

Watch These Points to Prevent Denim Warp Streaks

In Buying Cotton—Avoid the tinged grades.

In Boiling Off—Select chemicals carefully; check weighting of squeeze rolls and condition of roll coverings.

In Dyeing—Clean dye machines regularly; minimize stoppages by a good preventive maintenance schedule.

In Raw Stock Dyeing—Store dye lots separately, blend different lots.

In Beam Dyeing—Keep even tension on all ends during warping.

In Chain Dyeing—Keep dyes and chemicals in balance with a constant measuring device such as shown in right photo at top of page 93.

In Beaming—Blend warps from different dye sets (see method illustrated in drawing on page 93).

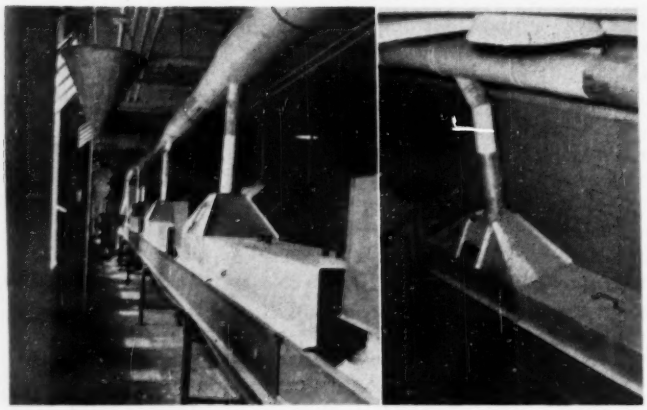
In Weaving—Check for bent drop wires, harness eyes, and reeds; keep even tension on all warp ends.

In Finishing—Take measures to prevent tight rolls, incompletely dissolved finishing materials, uneven compressive shrinking machine sprays, singer burner streaks.

Covers *Alleviate* Dust Problem in Opening Room

Is your opening room dusty and uncomfortable for the operatives? Perhaps you can benefit by the experience of management at West Boylston Mfg. Co. of Alabama in Montgomery.

Sheet metal covers shown in the accompanying photos were fabricated and installed on the conveyors moving the cotton from the blending feeders and cleaners to the openers. The covers can be easily lifted off the conveyors by the handles provided on top.



Adjacent to each feeder dropping stock onto the conveyor is a hood which has an opening in the top connected by duct to a suction fan discharging into the dust pit. The opening is equipped with an adjustable cover so that suction can be regulated to prevent good fibers being exhausted to the dust pit.

Now opener room operatives are not troubled with dust and lint in the atmosphere, according to H. C. Norman, master mechanic at West Boylston.

Dye Package Permeability Comparator Being Evaluated

The need for a simple, accurate, and quick-acting instrument for checking or comparing dye package density, and indicating numerical values for degrees of density may be supplied by the Sheffield dye package permeability comparator which was displayed by The Sheffield Corp. of Dayton, Ohio, at the recent Southern Textile Exposition and is now being evaluated by textile mill personnel.

The dye package is clamped in place in a universal holding fixture having rubber gaskets which seal the ends of the tube on which the yarn is wound. Air flows into the tube from the base and out through the perforations in the dye tube and through the yarn.

By means of a combination of air flow and air pressure circuitry and the Precisionaire column instrument (same as that used in the Micronaire to measure fineness of fibers), the indication of the flow of air

a very good mixing and streakiness is not apparent.

Weaving

In weaving denims or chambrays there are several things which cause undesirable warp streaks to appear. Many times these are mistaken for dye streaks in the finished cloth.

Bent drop wires, harness eyes, and reeds cause a large share of these. Streaks from these sources may be avoided by proper methods of handling and storage of this valuable equipment. The harness cleaner and the tying-in machine operators can play an important part in carefully inspecting the harness, reeds, and drop wires before retying. The necessary repairs or replacements should be made. As a further check on these the first cloth woven from each warp should be closely examined for streaks and other defects.

Uneven tension on warp ends at the loom will cause streaks. Tension differences can be caused by many things; for example, the unequal division of the drop wires and heddles. If excessive lint or pieces of loose yarn are allowed to collect in the drop wires, or mat up between the drop wires and the reed, a tension streak will result. For the control of these the loom cleaning schedule may require careful study and perhaps some revision. A good weaver may also contribute immeasurably by carefully patroling the back alleys of his loom set, keeping his warps clean and straight.

Large, incorrectly tied, or an excessive number of knots, may cause tension on the warp ends and produce streaks. A careful and thorough loom study of these should point to the necessary remedy.

Probably the largest single cause of loom stops in most mills is bunches, or soft waste spun into the yarn. These are sized and flattened at the slasher and this makes them even more difficult to weave. Usually if the larger ones weave through without breaking they hang in the harness or reed, causing tension, and produce streaks in the cloth. In addition these bunches have to be burled out and correction made.

Most, if not all, of these causes result in undue warp tension on segments of the warp body and cause streaks. They are frequently

through the dye package is highly amplified and registered on a linearly graduated scale representing units of air flow at indicated pressure. Reading is obtained instantaneously without any time lag.

It is anticipated that the Comparator can be used in the winding department to facilitate winding uniform packages—it will indicate which spindles are winding uniform, too soft or too hard dye packages. When yarn of a different size, fiber or blend is being processed for the first time, test packages can be wound, checked for density on the instrument, and then dyed so as to determine the most satisfactory package density and winding conditions.

Two to four or more packages can be checked per minute with the instrument, depending upon the operator and working conditions. This enables all dye packages to be checked, classified, and segregated if desired, so that variations in the shades of dyed yarn can be minimized and even eliminated. Thus, it will be practical to check all incoming yarns in dyehouses.

Warns of Educational Crisis

This nation faces the greatest educational crisis in its history, Dr. Houston Cole, president of State Teachers College, Jacksonville, Ala., declared before a gathering of textile manufacturers in Birmingham, Ala.

Dr. Cole told the annual public relations meeting of the Alabama Cotton Manufacturers Association: "Now that the population of the Communist world exceeds that of the free world, the need for trained minds in this country takes on even greater importance."

His address climaxed a session which also featured a panel discussion of textile career opportunities by six students and one graduate of the School of Textile Technology at Alabama Polytechnic Institute.

Dr. Cole warned that the fact must not be overlooked that the Communists have come to realize the importance of education as a factor in "implementing their ambition for world conquest." He said information now at hand indicates Russia is raising the educational level of its people at a higher rate than any other country in the world. With a college enrollment of 1,442,000, the Soviet Union is surpassed only by the United States. During recent years Russia has reduced illiteracy among its people from above 50 per cent to 19 per cent.

"Education is as fundamental to national strength as productive capacity," Dr. Cole declared. "It will profit us little to enhance our material strength while neglecting our human resources."

The educator said that "three additional millions are knocking at the doors of our grade schools and colleges this year, and they are finding inadequate classroom space and a shortage of well-trained teachers."

He asserted that this nation must provide the facilities and personnel necessary to the education of these young people, adding: "We cannot afford to gamble with the future of the nation."

referred to as "draw backs," and are the cause of a sizable proportion of weaving seconds in many mills.

If the temples are not properly aligned, or if thread is allowed to collect around the temple burrs or rolls, the temples will drag and make unsightly streaks in the cloth. Preventive measures are obvious and the weaver and the loom fixer should keep close watch on this condition and the operation of their loom temples.

Finishing

The causes of streaks in cloth occurring in wet finishing are so many and varied that a full coverage of the causes, effects, and remedies in a single article would be impractical. To mention only a few, they are: tight rolls, incompletely dissolved finishing materials, threads on rolls and clips, calender pressure streaks, uneven sprays, steam and water leaks, and singer burner streaks.

The filters, strainers and weirs for the sprays should be kept clean at all times. The water and air pressures should have adequate controls and be kept constant. Never use a steel brush or pick to clean the spray weirs; this will irreparably damage them and cause an uneven distribution of water and a spotty or streaked spray mist. A special brush is available for this purpose.

Most mills singe their fabrics, and close attention should be given this point in the finishing process. Whether compressed kerosene vapors or gas is used for fuel, the burners must deliver a clean, steady, and evenly distributed flame. If this is not done, certain tongues of the flame will singe heavier than others, causing continuous streaks warpwise in the cloth. There is also danger of streaking and smudging the cloth if the flame is too hot or set too close to the fabric. Here again, these streaks are often mistaken for dye streaks since some appear to be darker than others.

The burners should be cleaned regularly and particular attention given to the small orifices. These are best cleaned with a fine jet of compressed air, but this must be done while the burner is out of operation and has cooled thoroughly. Never attempt to clean or adjust the burner parts when they are hot.

Are you thinking about

installing individual card

EXCLUSIVE

EVERY conscientious mill manager will eventually, if he has not already, have to answer the question, "Should I install individual motor drives on my cards?" The answer to the question involves careful consideration of a number of factors: first cost, operating cost, production rate, effect of drive on quality, flexibility of operation, appearance of card room, floor plan, and safety.

These factors are considered in detail in this article; and, in addition, helpful tips regarding selection, installation, and operation are offered in the light of experience with several thousand individual drives that have been installed during the past five years.

Why an individual drive? There are many positive incentives for installing individual card drives, just as there are for individually driving other equipment, such as spinning frames, looms, twisters and countless other machines. It so happens that in practically no instance is the first cost or the electric power cost lower for individual drives than for properly engineered group drives. In spite of this, nearly all modern machine shops use individually driven machines and so do nearly all up-to-date spinning rooms and weave rooms.

There must be compelling operating advantages that more than justify the increased first cost and slightly higher power cost that individual drives entail.

One reason why first cost is not a serious stumbling block to modern management when considering individual drives versus group drives is that, while individual drives considered by themselves cost from two to three times the total cost of the line shafting, belting, and motors of a group drive, this premium is usually small compared with the cost of the processing machines themselves and the building in which they are housed.

When considering drives, it pays to look at the whole operating and cost picture and not just one small part of it.

Cleanliness and appearance constitute two of the important incentives for installing individual drives in card rooms. It is a generally accepted fact that high-quality products can only come out of orderly, clean, and up-to-date plants. It is psychologically difficult for an operative to maintain an attitude of cleanliness, quality consciousness, and order in a poorly lighted, dingy, dirty, or unattractive atmosphere. The accompanying photograph illustrates the improved appearance and cleanliness which result from elimination of overhead line shafting by the installation of individual card drives.

The elimination of overhead shafting and belts removes an important source of slubs in the sliver. It also removes an important cause of static electricity, which becomes very important when working with synthetic yarns; and lets more natural light into the room, making it possible for a good paint job to have its proper effect.

One of the practical operating advantages of some individual card drives is variable speed. The use of an adjustable-pitch sheave on the motor permits selecting just the right cylinder speed for the fiber being carded. A great deal has been accomplished in some mills in this way.

Some mills have selected individual card drives because of the type of room they had available for the cards. The author knows of eight mills, for instance, who wanted to expand their operations, but had only low-ceilinged rooms available. Using individual drives these rooms have proved to be entirely satisfactory. Eight other mills had odd-shaped rooms available for expansion which did not lend themselves to group drives, but worked out fine with individual drives.

Even in a square room which is ideally suited to group drives, it is not always desirable to operate only those cards driven by particular line shafts during slack times or for special runs. When cards are operated out of "line shaft order," the operation of unnecessary shafting and belting stirs up lint and reduces sliver quality.

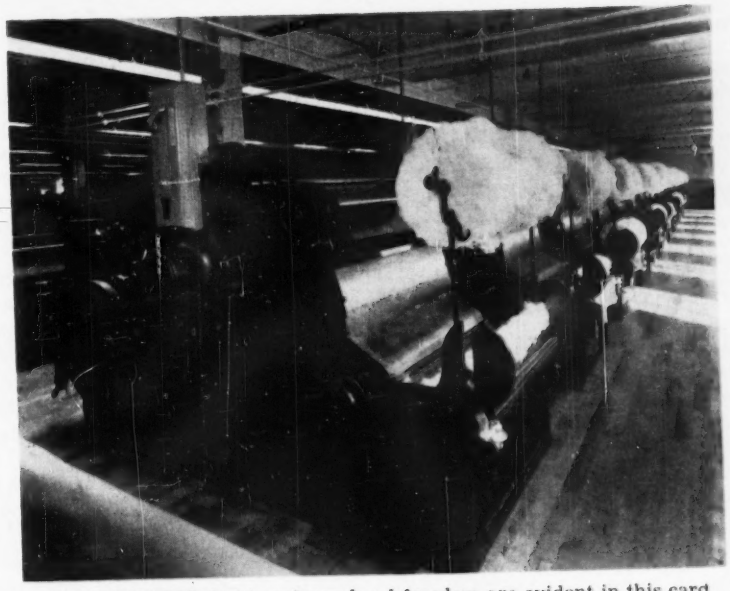
In some mills, particularly in foreign countries, the building structures are not strong enough to support line shafting properly. This is particularly true in South and Central American buildings. Large numbers of individual drives have been installed on cards prior to shipment to foreign countries.

Safety and fire hazards must also be considered. In many states it is illegal to operate with unguarded belts. To comply with the law, the individual card drive is equipped with the right kind of guard, and yet this guard does not interfere with stripping or other essential operations. The guard permits close positioning of the cards, because the operator can safely walk between the machines without the danger of catching his clothing on a belt.

Another safety feature of the individual drive is the overload protection inherent in the motor starter. If a card becomes loaded for any reason, the danger from fire is eliminated, because before

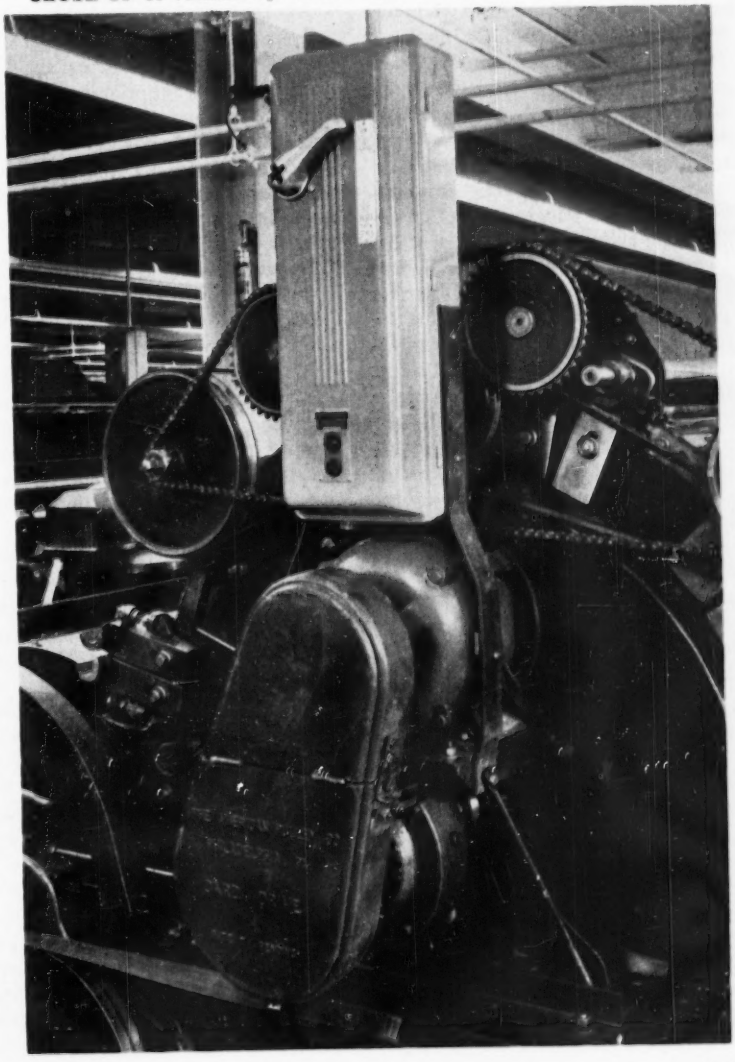
drives?

By William A. Williams



CLEANLINESS, light, and overhead freedom are evident in this card room fitted with unit drives.

CLOSE-UP of variable-speed unit card drive.



the load can build up enough to start a fire, the starter stops the motor. When a motor stops in a card room fitted with individual drives, the operator knows that something in the card is causing an overload, and he does not start the card up again until the trouble has been corrected. In new installations this feature sometimes leads to an argument between the card operators and the electrical crew until the fact is finally accepted that a motor does not "kick out" unless the load has increased for some reason.

Horsepower Requirements. A great many factors determine the horsepower requirements of a card. Among these are:

1. *Cylinder speed.* Some authorities say that for a given type of fiber, the horsepower varies as the square of the cylinder speed. Some tests seem to disagree with this formula, but the horsepower always increases at least in direct proportion to the increase in speed.

2. *Feed in pounds per hour.* It stands to reason that the horsepower will increase with a higher feed rate. Just how much depends on the kind of yarn and the adjustments of the card flats.

3. *Kind of fiber.* There is a difference in strength and behavior among the various materials being carded today. In general, short staple rayon and acetate seem to require slightly less horsepower than cotton, whereas nylon and Dacron seem to require more. The synthetics have a more level horsepower load than cotton because they do not load up the clothing and therefore do not require strip-

ping as often.

4. *Staple length.* On flat cards the longest staple that has been successfully carded to our knowledge is four inches. This requires special flat adjustment and great care. The horsepower load is higher than for normal short-fiber materials. We have very little reliable horsepower data on long-fiber staple, but have ample facts on 1½-inch and 2-inch staple in rayon, acetate, nylon, Dacron, and blends of these to know why they require very little more horsepower than cotton when operated with proper flat clearance, doffer speed, licker-in speed, cylinder speed, etc.

5. *Denier.* The heavier the denier the higher the horsepower load is likely to be. Precise figures are not yet available on this variation.

6. *Auxiliary apparatus.* It is obvious that attachments such as fancies, continuous strippers, feeders, and roll tops will add to the horsepower load. A fancy or continuous stripper by itself will not usually add enough load to require the use of a larger motor. According to recent tests, a continuous stripper load varies between .05 and .25 hp. The load of the fancy roll is much smaller. A feeder will usually require the use of a larger motor because a minimum of ½ hp should be allowed for it. Roll-top cards require more power than flat-top cards, not necessarily because of the revolving workers and strippers, but because they usually are carding long staple fibers.

7. *Flat clearance.* Recent investigations have shown that the clearance between flats and cylinder affects the carding horsepower load, particularly with synthetics. A much larger clearance than is standard for cotton seems to be advantageous.

8. *Width of card.* Horsepower load is roughly proportional to the width of the card.

9. *Maintenance.* This is probably the cause of the widest fluctuation in card horsepower requirements. Tests have shown that a bare card with no fiber in it at all can draw between 0.6 and 1.2 hp, depending upon the condition of the bearings, alignment, and general cleanliness of the card. Add to this base load the normal carding load of from 0.2 to 0.6 hp (depending upon rate of feed, length of staple, and type of staple). It is evident that the load can exceed the normal 1½-hp capacity when conditions are unfavorable.

In one mill a card which stopped when the motor "kicked out" was found to have an exceedingly hot bearing next to the reducer. Horsepower readings were taken, and it was found that the power dropped 0.4 hp when the bearing was lubricated.

It doesn't take much of a drag to consume 0.4 hp in a machine. Fortunately, power must always be dissipated in the form of heat, and by checking bearing temperatures with the hand, it is easy to find where the excessive power is going.

Another way is to check motor amperage while dropping off one section of the card after another until only the cylinder is running. This will show which element is taking too much power.

If the cylinder by itself is drawing more than 0.5 hp, chances are something is wrong.

Motor Sizes. At least 90 per cent of present installations are using 1½-hp motors regardless of the fiber being carded. Some users who have experimented with fibers longer than two inches have experienced difficulty, but those carding staple lengths of two inches and under are not having any trouble when operating conditions are good.

A few purchasers have elected to install 2-hp motors, even though their present loads are under 1½ hp. This practice provides amply for the future, but results in low motor efficiency and power factor. It is recommended that any mill considering using a motor over 1½ hp give careful consideration to the added cost of power at various load levels. Motor manufacturers can readily make such estimates.

Motor Types. Both totally-enclosed and lint-free motors have been successfully used in card drives. A rough check indicates that more lint-free motors have been used than totally enclosed.

More important than the type of enclosure for the motor is the type of winding employed. A direct belted drive, without a clutch and without a low-voltage starter, requires a special high-torque motor to bring the card up to speed without burning up the motor. This type of motor requires a special starter, and careful selection of the heaters for the starter in order to prevent "kicking out" before the card is up to speed and yet have some overload protection during normal operation. In most installations using high-torque motors and special starters it is not possible to start the card twice in succession without the starter "kicking out."

When a drive utilizes a centrifugal clutch, a fluid clutch, or a simple friction clutch, permitting the motor to come up to speed almost instantly, a standard winding is suitable in the motor. In this type of drive the driving torque at the start is reduced to less than half that obtained when a high torque direct-connected motor is used. This reduction in torque increases belt life, bearing life, and greatly reduces the tendency of the drive to lift the card shaft out of its bearings, or to otherwise bend the card shaft or frame. Of course, the clutch introduces another maintenance item which can be considerable unless the clutch is properly designed for the job.

In a high-torque, direct drive which starts across the line (without reduced voltage) the card cylinder will usually come up to full speed in from 15 to 20 seconds. A clutch drive using a standard motor will usually require 40 to 50 seconds to bring the cylinder up to full speed. Naturally the operating speed will influence the starting time, as will the load and size of motor employed.

Determining Horsepower Load. When a mill is operating a group of cards with line shaft drives, it is relatively easy to determine the approximate load per card by finding the horsepower load of the motor driving the group, using a clamp-on ammeter or clamp-on watt meter. For best results an industrial analyzer should be used, but on large motors reasonably ac-

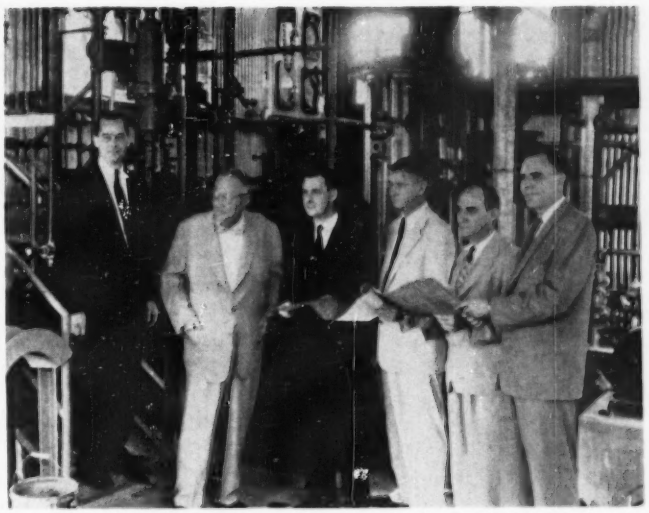
The first pilot plant for the cyanoethylation of cotton was officially opened in Rossville, Ga., on October 5, according to an announcement by the Institute of Textile Technology. This step was termed "a major development" which could materially improve the competitive position of cotton.

Cyanoethylation is a process in which cotton is modified by reaction with a chemical called acrylonitrile to produce a new textile material [see T. I. for October, 1953, pages 138A-D].

The pilot plant, located at the National Plant of Standard-Coosa-Thatcher Company, is the result of intensive work by the I.T.T. research center in Charlottesville, Va., and American Cyanamid Company on equipment design and process development for the chemical modification of cotton.

Designed for maximum versatility, this installation permits a complete study of the operation to determine the most economical commercial process, it was disclosed.

A minimum of 20,000 pounds of cyanoethylated cotton, recently designated "azoton" [see News in Brief page 77 this issue], is scheduled for production in this pilot plant within the next nine months. This new fiber material derived from cotton will be subjected to service tests on a large scale market evaluation program conducted by the Institute in conjunction with the textile mills constituting its membership.



Inspecting the plant are (left to right): **L. A. Fluck**, American Cyanamid; **S. Herschel Harris**, Standard-Coosa-Thatcher; **Dr. L. H. Hance**, ITT; **Aubrey A. Hobbs**, Standard-Coosa-Thatcher; **Dr. Jack Compton**, ITT; and **L. C. Duncan**, American Cyanamid.

Evaluation Program Begins for Cotton Treated with Acrylonitrile

The selection of more than thirty-five different end-use products into which the azoton will be put is based upon laboratory tests showing improved rot resistance, heat resistance, abrasion resistance, chemical resistance, dye receptivity, electrical insulation, as well as yarn and fabric strength. From fish nets to tobacco shade cloth, awnings to toweling, laundry press covers to wearing apparel, the pilot plant will be tested in a wide variety of end-uses.

Further extension of the value of the pilot plant is expected to come from the establishment of the optimum processing conditions for obtaining fibers best suited for specific end-uses at the lowest cost. From the information obtained from the operation of the pilot plant and the market evaluation program, the future of the development can be determined.

The Institute will make the process available to the textile industry at the proper time through a licensing arrangement based on patent applications by Dr. Jack Compton, technical director of the Institute.

curate readings can be obtained with clamp-on meters. A curve showing the horsepower for various current values at design voltage should be obtained from the manufacturer of the particular motor being checked.

To the average horsepower load per card determined in this manner, a safety factor of at least 25% should be added to allow for normal variations between cards. In a group of ten to twenty cards, two or three may be pulling 50% more than the others. Obviously, the unit drive must be capable of taking care of normal increases in load that may occur from time to time. It is only when the load becomes excessive that the motor should "kick out."

Thus, if the average load is found to be 1.2 hp, the minimum motor size should be $1.2 \times 1.25 = 1.5$ hp. If the average load should be found to be 1.4 hp, then the minimum motor horsepower should be $1.4 \times 1.25 = 1.75$ hp.

It may be that the motor manufacturer is willing to guarantee that a standard 1.5 hp textile motor will be able to deliver continuously, in which case it would be all right to use it instead of going to a 2 hp motor. On the other hand, if there is any possibility of the load becoming larger through use of new fibers, the larger motor would probably be the wiser choice.

Conclusions. Unit drives have now been operating long enough to prove that they have definite advantages and that they are here to stay. Standard sizes now available are adequate for present-day horsepower demands with considerable margin of safety to allow for increased production rates.

A Guide to Fixing Banner SCP Knitting Machines

By C. C. Auton
Fairview Hosiery Mills, Inc.

EXCLUSIVE

PART 2

PREVENTIVE maintenance, adjustments, and methods of repairing the S.C.P.-51 Banner knitting machine were discussed in Part 1 of this article which appeared in the October issue (pages 154-160). A check list for periodic inspections was also presented (see page 156).

Part 2 consists of a "quick reference guide" for diagnosing and correcting troubles with the machine. This guide covers the most common troubles found in operating S.C.P.-51 Banner machines and includes appropriate suggestions for correcting the difficulties in an effort to help speed the fixers' training.

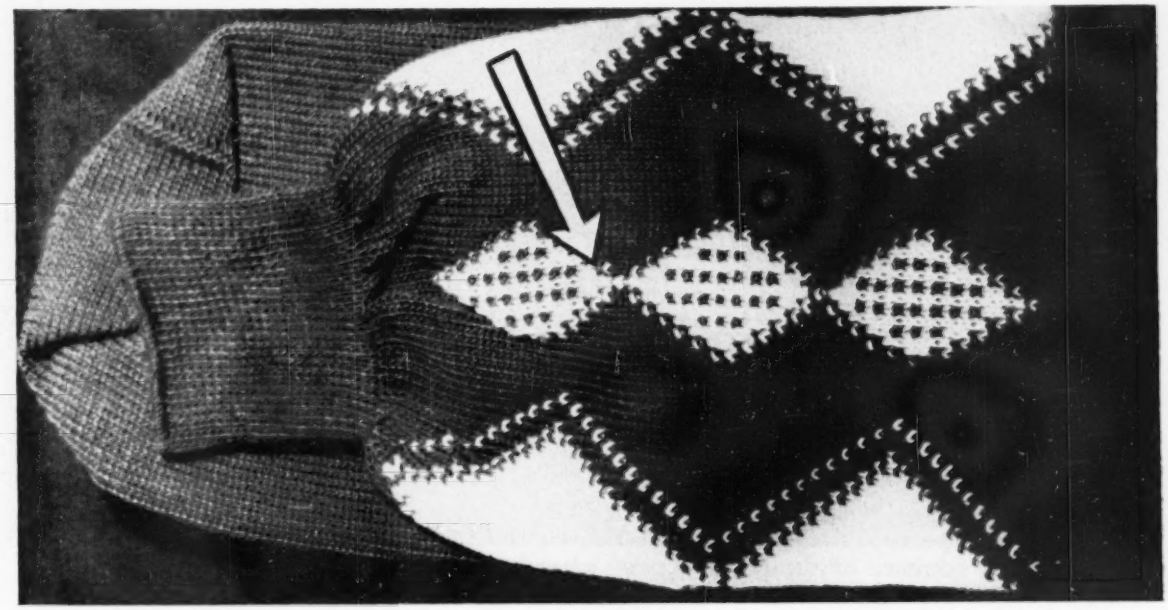
Trouble Shooting the S. C. P.-51

Cut Holes in Fabric

Caused by	Correction
(a) Yarn pinched between feed finger and throat plate.	Reface bottom of feed finger to allow sufficient space for yarn to run and retract freely.
(b) Stitches too tight or too loose.	Adjust stitch cams, end cams, fabric take-up, or tensions.
(c) Defective yarn.	Replace with good quality yarn.
(d) Bad needles and sinkers or protruding needle latch rivet.	Replace.
(e) Uneven or worn stitch cams.	Replace or repair by honing new surface.
(f) Incorrect sinker adjustment.	Adjust sinkers by correctly setting cam and sinker cap and/or bumper screws. Auxiliary center sinker cam slide may stick and cut holes in fabric, a condition caused by lint under slide, and/or lint under auxiliary center sinker cam.
(g) Rough, burred, or sharp yarn guides, feed fingers, or porcelain eyes.	Polish all parts.
(h) Incorrect needle or sinker alignment.	Align correctly.

Shearing

Caused by	Correction
(a) Protruding rivet in needle.	Replace needle.
(b) Yarn feeding too low on needle.	Adjust mouth-piece-to-stitch-cam relationship.
(c) Rough needle hook, shank, latch, or bent hook or latch.	Replace needle.
(d) Rough or cracked sinkers.	Replace.
(e) Latch or carrier ring bent, loose, or out of adjustment.	Replace ring or correctly adjust.
(f) Tight stitches.	Improper setting of fashion bracket screws. Look for gouts in yarn, stitch cams too high, bumper screws not set right, or any obstruction to smooth yarn feed, obstruction under cam plate.
(g) Rough fingers or yarn guides.	Smooth affected area or replace part.
(h) Yarn pinched between finger and throat plate.	Reface bottom of finger.
(i) Badly worn stitch cam.	Replace.



IMPROPER OVERLAP OF COLORS may be seen in the lower portion of the small diamond at top. This defect was caused by the latch operator lever operator being out of adjustment.

Tuck Stitches

Caused by	Correction
(a) Incorrect sinker adjustment caused by sinker going in too quickly.	Adjust bumper screws or side sinker cams.
(b) Spread needle hook.	Replace needle.
(c) Incorrect needle friction.	Bend needle for correct amount of friction.
(d) Oil or grease.	Lubricate regularly but not excessively.

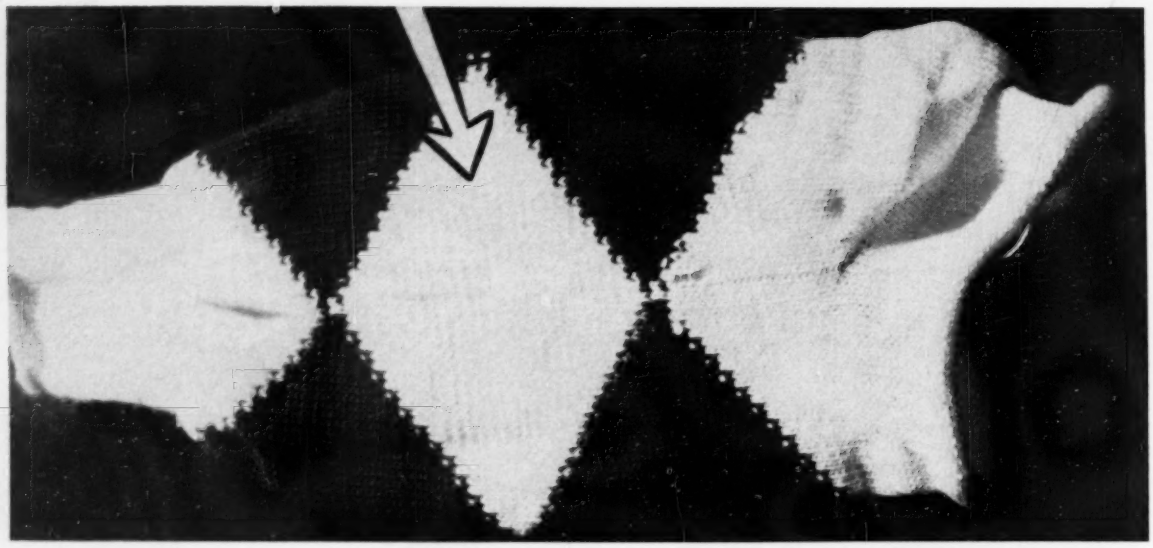
Dropped Stitches

Caused by	Correction
(a) Needle level too high or too low.	Adjust needle level by fixing height of stitch cam by adjusting fashion bracket screws or by correcting cam position on stitch block.
(b) Bad needle latch or hook.	Replace needle.
(c) Improper needle alignment.	Look for bent needle or obstruction pressing against needle.
(d) Improper needle friction, placement, or insufficient tension on needle bands.	Adjust by bending needles or replace needles or bands.
(e) Rough stitch cams, center cams, or end cams.	Polish cams or replace.
(f) Improper adjustment of latch ring.	Center latch ring over cylinder.
(g) Sinker cams may be causing sinkers to go in too quickly. Bumper screws may be in too far.	Move sinker cam out. Enlarge gap between bumper screws.
(h) Bent needle butts.	Replace or repair.

Unbalanced or Uneven Reciprocating Knitting

Caused by	Correction
(a) Uneven stitch cams.	Lower extremity of two right cams must be at same height, also two left cams must be at same height.
(b) Yarn stacked too close to guide.	If there is more than a 1" layer of yarn on cone, don't put it on top of another cone. Yarn travel off cone should be in vertical line with guide.
(c) Cam block rocking.	Tighten cam block.
(d) Incorrect sinker adjustment.	Be sure both sinker cams are adjusted to the same position.

(Continued next page)



ALTERNATE COURSES OF TIGHT AND LOOSE STITCHES may be caused by uneven stitch cams, yarn stacked too close to guide, cam block rocking, incorrect sinker adjustment, unequal end cam adjustment, or uneven bumper screw settings.

Unbalanced or Uneven Reciprocating Knitting (continued)

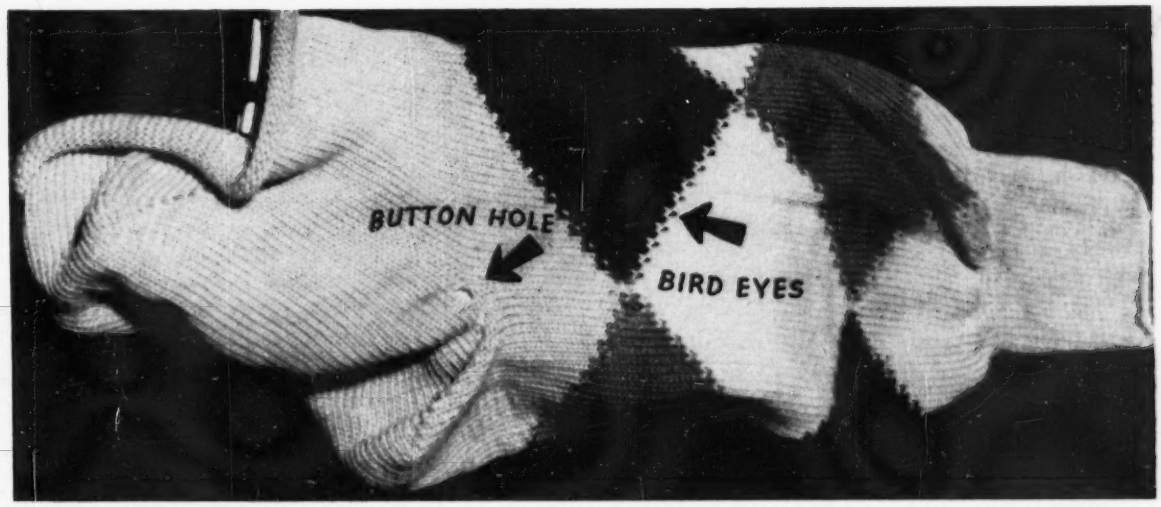
Caused by	Correction
(e) Unequal end cam adjustment.	Adjust these cams to same relative position.
(f) Uneven bumper screw settings.	Be sure bumper screws are adjusted same on both sides of machine.

Sock Out of Size

Caused by	Correction
(a) Yarn out of take-up binder lever.	Place yarn under the tension device.
(b) Slub in tension yarn guide, or finger.	Remove slub.
(c) Wrong yarn count.	Change to correct yarn.
(d) Obstruction under fashion plungers or sliding bar.	Remove obstruction.
(e) Unusually high humidity or rapid temperature changes.	Maintain even temperature and humidity.
(f) Stitch cams out of position.	Reset stitch cams, depending upon whether too high or too low.
(g) Yarn twisted around some object.	Rethread yarn correctly.
(h) Incorrect number of chain links.	Use number of links according to specifications.
(i) Chain not racking or double racking.	Correct trouble, then retime chain for a new start.
(j) End cams out of position.	Adjust end cam, depending upon whether too far or near stitch cam.
(k) Yarn too close to guide.	Yarn travel should be in vertical line with guide.

Pick Troubles

Caused by	Correction
(a) Widening pick fails to lower two needles to correct level.	Adjust or replace widening pick.
(b) Widening pick remains too low and in inactive position.	Adjust widening pick or widening pick throwout linkage.
(c) Narrowing or widening pick rough, soft, or worn, breaking single needle butts.	Harden, repair, or replace.
(d) Narrowing pick does not raise needle above top of center cam.	Adjust setting of depth of picks.
(e) Narrowing pick set too low and missing first approaching needle.	Reset lip of narrowing pick to a higher level.
(f) Picks too long or set too close and riding cylinder.	Adjust setting of depth of picks.



BIRD EYES AND BUTTON HOLES may be caused by narrowing picks too high, widening picks operating too soon, wrong number of links in chain, widening picks lowering three needles, or cam plates set wrong.

Pick Troubles (continued)

Caused by	Correction
(g) Weak or broken narrowing pick spring.	Replace or adjust spring.
(h) Vertical movement of narrowing pick on narrowing pick stud.	Close excess tolerance on pick stud.

Bird Eyes and Button Holes

Caused by	Correction
(a) Narrowing picks too high and in inactive position.	Adjust pick or remove obstruction under pick.
(b) Widening picks operate too soon.	Correct timing of widening pick throw out or height of widening pick.
(c) Wrong number of links in chain or chain not racking.	Adjust or comply with specifications.
(d) Widening picks lowering three needles.	Make lip of widening pick narrower or check for bent butt needles.
(e) Cam plates set wrong (too high or too low)	Set to operate picks correctly.

Long or Short Corners

Caused by	Correction
(a) Uneven division of long and short needles.	Equalize the count.
(b) Incorrect chain or chain movement.	Correct chain movement or equalize number of links on each side of turn back lug.
(c) Picks fail to pick down as many needles as are raised or vice versa.	Correct settings and timing of picks, bent butt needles or size of pick lip.

Wreck

Caused by	Correction
(a) Chain accidentally moved to wrong position.	Establish correct relation between chain and main drum. Set machine for new start.
(b) Lug links on chain too high or too low.	Correct height of links.
(c) Chain fails to continue racking.	Free chain, align chain pawl, or remove obstruction.
(d) Pawls incorrectly adjusted.	Adjust as necessary.
(e) Kinks in chain.	Free or replace faulty links.
(f) Broken chain.	Fasten chain and replace any worn links noted.

All Long Butt Needles Raised on Toe or Heel

Caused by	Correction
(a) Chain arrested or out of time.	Free or retime chain.
(b) Down picks broken or not operating.	Replace or adjust widening picks.
(c) Turn back lug too low.	Use higher turn back lug. *(Turn page, please)*

Trouble Shooting the S.C.P.-51 (continued)

Short or Long Leg or Foot

Caused by	Correction
(a) Chain arrested.	Free the chain.
(b) Chain not racking.	Align chain pawl or check for worn chain pawl or slipped chain ratchet pawl cam.
(c) Chain occasionally double racks.	Correct adjustment of chain ratchet pawl cam or length of chain pawl. Check alignment of chain pawl to see that pawl is not racking against kinked links.

Pattern Incorrectly Located in Sock

Caused by	Correction
(a) Lugs on chain too high or too low.	Obtain correct size lugs.
(b) Incorrect friction on main or pattern drums.	Maintain correct brake friction.
(c) Idler lugs improperly set or worn.	Reset idler lugs or replace.
(d) Pattern drum linkage broken, bent, worn, or slipped.	Readjust or replace.
(e) Pattern disk stacked incorrectly.	Correct stacking sequence.
(f) Pattern disk not aligned with jack cam lever.	Maintain correct level by using appropriate shims.

End Splicer Malfunction

Caused by	Correction
(a) Linkage disconnected.	Connect.
(b) Tension springs disconnected.	Connect.
(c) Yarn change operating levers too high, preventing lever stops from operating freely.	Lower operating levers by installing new lever or by adding weld metal for refacing point which slides over control cams. May have to lower the yarn change lever operating bracket.
(d) Stud holder slipped or lever stop operating lever slipped.	Tighten the offending set screw.
(e) Incorrect adjustment of end splicer latch.	Adjust to permit latch to engage and disengage properly.
(f) Incorrect setting of latch operating lever in relation to latch lever.	Remove lost motion in latch actuating mechanism.
(g) Control disk operating stud bent, broken, or missing, preventing correct operation of left rear stitch cam.	Repair or replace.

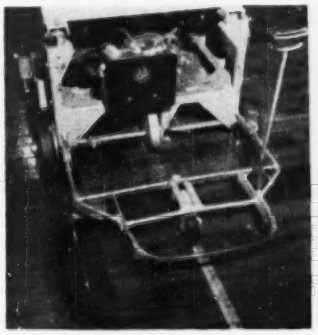
Clutch Difficulties

Caused by	Correction
(a) Loose main bearing next to bevel gear.	Tighten appropriate screws.
(b) Main drum not synchronized with main drum pawl.	Correct the throw of the main drum pawl. Set end of pawl plunger 4½″ from main ratchet pawl shaft.
(c) Improper setting of main drum in relation to main drum adjuster.	Adjust to operate clutch smoothly.

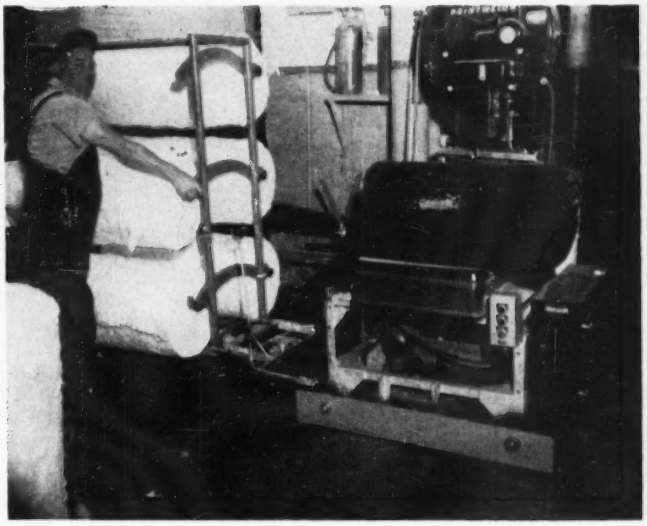
Jack Breakage

Caused by	Correction
(a) Lost motion in connecting rod, gears, and control drum.	Replace rods and/or bearings, tighten shaft bushings on gears.
(b) Slipped bevel gear.	Reset and tighten set screws securely.
(c) Broken or badly worn control cam.	Replace.
(d) Misalignment of machine parts caused by obstruction somewhere in the machine (jack butts in ring gear, etc.).	Locate and remove obstruction.
(e) Loose jack raise cam.	Tighten screw holding cam.
(f) Jack guard cam loose, set too far from cylinder, or badly worn.	Adjust or replace and adjust. Set cam so it operates on all jacks but does not rub cylinder or miss any jacks.

(Continued opposite page)



Close-up of hitch devised for lap truck.



Towbuggy Saves Time in Handling Laps

A towbuggy arrangement to pull a lap rack along with the electrically operated lap scale has proved to be a time saver and a labor saver in one mill.

The distance between the pickers and an adjacent wall is insufficient to permit moving a lap rack along with the scale in a parallel position between the scale and the wall or between the scale and the picker.

Since the scale travels on a track in a fixed position, a trailer hitch was devised to fasten a lap truck to the scale chassis (see accompanying illustrations). Now the operator weighs each lap, places each lap on the lap rack truck, and the scale pulls the lap truck along with it to the next picker station. It is no longer necessary to waste time walking any appreciable distance from the scale to the lap rack, and the operator does not have to move the lap rack manually except when it is filled to capacity and an empty truck is exchanged for the full one.

Spun Saran Fabric Provides Sun Glare Control

Effective control of sun glare is obtained with Infinity Fireproof Diffusion Cloth, an exclusive development of the Edwin Raphael Co., Inc., Holland, Mich. View-ability through the window, and ventilation are maintained at a high level so that there is no "shut in" feeling.

The cloth is made of a spun saran which gives it this quality. Reduction of light to 25 foot candles is controlled by the fullness of the drapery. The fabric allows daylight to enter the room unimpeded, and yet filters the glare from either light or reflections.

This cloth is inherently fireproof and cannot burn, support, or transfer flame and has passed Underwriters Laboratories and other flamesafe specifications. It never has to be "treated." Another quality of this material is sound absorption.

The material can be washed or cleaned by any method.

Jack Breakage (continued)

Caused by	Correction
(g) Selectors fail to pull away from cylinder far enough as a unit.	Look for disconnected connecting links or broken or slipped jack cam lever stop.
(h) Broken selectors, jack cam levers, plain sole cam, or jack raise cam.	Replace.
(i) Obstruction on top of ring gear and against cylinder (such as needles, sinkers, screws, etc.).	Locate and remove obstruction.
(j) Control cams too short or too long.	Correct adjustment.
(k) Obstruction on pattern drum (lint, etc.) preventing correct operation of selector.	Locate and remove obstruction.
(l) Obstruction in control drum bevel gear causing erratic movement.	Locate and remove obstruction.

END

MERCHANDISING

"Hard Sell Starts

By Bert Lange
Merchandising Staff
Bryan Houston, Inc.

NO. 1 OF A SERIES — EXCLUSIVE

BEFORE me is the June 1954 issue of TEXTILE INDUSTRIES. In this issue is a report of the events of the last meeting of the American Cotton Manufacturers Institute. There follows an outline of the remarks made on that occasion by Mr. Hallett, the retiring president of the ACMI. Mr. Hallett provocatively posed the age-old question of the industry: "How do we get out of the boom and bust category?" He suggested that the industry engage in consumer research and further suggested that the industry employ top merchandising talent.

Mr. Hallett's speech seems to us remarkable. Remarkable first for its cogency. But more remarkable for its subject matter. For it is almost fantastic that in the year 1954, it should be necessary to *introduce* the possibility of an industry's engaging in consumer research.

It is almost inconceivable in these times of fierce competition, that an industry could hope to survive without a knowledge and use of market research and a continuing program of exploration in merchandising methods. Moreover, Mr. Hallett's remarks might well have been addressed to every producing segment of the textile industry.

The idea of research is not unknown in textiles. Research has been hard at work in the industry these many years. Invariably, however, he's been wearing a white laboratory coat and carrying a test tube and retort. Rarely, if at all, have we heard of this inquisitive lad exploring the market place, trudging through retail stores, or ringing Mrs. America's doorbell.

The labors of the lab have been productive per se. But the failure to carry the creative inquiry to the consumer level has made the payoff insubstantial. . . . By and large, the results achieved with the test tube have been phenomenal. Conversely, the results achieved at the sales counter have been lamentable.

While the textile industry has been limping along over the past ten years, enormous new markets have been developed for a variety of products. Each of these markets was created by exploiting a basic human want, e/g.:

Television grew from a desire to be entertained comfortably, economically.

The market for dishwashers and dryers was developed from the desire for more leisure, through labor saving

Air conditioners are sold because of a desire for increased comfort.

Home freezers and infrared broilers exploit the desire for greater convenience.

These multi-million dollar markets, created out of ostensibly blue sky, argue that no matter what the consumer may say about his available expendable income, if you offer something that provides entertainment, or comfort, or leisure, or convenience, the consumer will somehow find the dollars to spend on the product that answers his most immediate want.

We've four basic human wants to concern us —the basic wants that have proved their ability to convert spendable income into sales—comfort, leisure through labor savings, convenience, and most important, entertainment. In textiles, since the beginning of civilization, we've translated that word to fashion—an elusive, not quite definable intriguing catch-all for beauty, adornment, style, allure.

We will readily agree that the vast majority of modern textiles are capable of providing

Make only what you can sell!

With Hard Facts"

answers to these wants. Why then should the industry suffer from dangerous peaks and valleys.

In every discussion of "boom and bust" we hear that the textile industry suffers from overproduction. And when so many industry leaders repeat the phrase so many times it becomes possible to accept the dictum as gospel and to plan either to ask the government for another subsidy, or to suggest that we plow under so many looms or so many manufacturers.

It is, of course, easily possible that "overproduced" is an easier, face saving way of saying "undersold." It is very difficult for anyone on the outside standing in awe of the remarkable technical accomplishments of the industry, to understand the equally remarkable lack of sales accomplishment.

Why, asks this guy on the outside, has the industry failed to properly describe, explain, and exploit the advantages of test tube improvement and creation, so that Mrs. America would understand why she should discard the old and buy the new? Why, asks our admiring and censuring friend, has the industry neglected to dramatize and romance its products so that they might compete more favorably for the consumers attention against any other consumer product?

The answer to these questions is not too obscure. Little has been done by the industry to determine what the consumer wants. Few inquiries have been made into buying motivations. Industry thinking has been largely predicated on what the individual manufacturer wanted to produce, wanted to sell. The assumption was made that the consumer thought in the same terms used by the manufacturer. And no one took the time or trouble or spent the money, to test the assumption, positively or negatively.

Since the suggestion has at last been made that some consumer studies might profitably be made, it seems reasonable that you might want to know how you learn what the consumer wants, or what the consumer understands. That's fairly simple. You ask her.

Granted, you can ask and get answers to a wide variety of questions. Obviously, you're quick to realize that the questions can be asked so that you get only the answers you want. On the face of it, this seems fairly silly, but it's not so silly when you know that this wish fulfillment kind of questioning occurs frequently. Consequently, it just is obvious that this asking business is a job for professionals, professionals with the integrity to demand an objective job and knowledgeable enough to know how to get just that.

Now you ask, what kind of information can I hope to get. Essentially you can obtain definite answers in two different categories. You can get a combination of historical and current data. That is, you can find out what people have bought and what they are now buying. The type of product will have weight in determining the questions (e.g. the cycle of purchase in ready-to-wear is far faster than that of draperies).

A sound merchandising program means increased sales, increased profits, and perhaps an end to the textile "boom and bust" cycle

Then, you can obtain predictive data. You may learn, for instance, what people plan to buy the

1955 Marketing Year Wool Incentive and Mohair Support Prices

The U. S. Department of Agriculture has announced a shorn wool incentive price of 62 cents per pound of wool, grease basis, and a mohair support price of 70 cents per pound, both for the 1955 marketing year. If average prices received by producers for wool and mohair fall below these levels, payments will be made to producers.

The wool incentive price is equivalent to 106 per cent of the September 15 wool parity price, and the mohair support is equivalent to 91 per cent of the September 15 mohair parity price.

The shorn wool incentive price and the mohair support price for the marketing year beginning April 1, 1955, have been established under the provisions of the National Wool Act of 1954. This Act provides for a shorn wool incentive price of up to 110 per cent of parity as may be required to encourage an annual production of 300 million pounds of shorn wool.

In establishing this objective, the Congress recognized wool as an essential and strategic commodity which is not produced in the U. S. in sufficient quantity to meet domestic needs. The wool incentive price at 62 cents per pound should stimulate production toward the 300-million-pound goal. Funds for financing payments will come from 70 per cent of the tariff receipts on wool imported into the U. S.

The new method of encouraging wool production will permit domestically - produced wool to move freely into consumption at the open market prices. In this way, the new program will be of benefit to both consumer and producer by stabilizing the wool industry without increasing consumer prices for woolen goods.

The new wool act provides for support of pulled wool at levels in relationship to the shorn wool incentive price that will maintain normal marketing practices. This pulled wool "equalizing" payment will act to prevent unusual shearing.

The program will apply to wool and mohair sheared beginning January 1, 1955, and marketed during the year beginning April 1, 1955, and ending on March 31, 1956. The program will also apply to sheep and lambs marketed during the same period.

Along with this new incentive program for wool, Secretary of Agriculture Ezra Taft Benson also announced that through May 1955 no stocks of Commodity Credit Corporation-owned wool will be sold for less than 103 per cent of the 1954 wool price support loan rate plus sales commission.

This policy should assure the industry that Commodity Credit Corporation stocks of wool will come on the market only at prices high enough to protect growers in selling the balance of the current year's wool clip at prices above the 1954 loan rates, it was explained.

The CCC inventory now contains approximately 110 million pounds of wool acquired under the 1952 and 1953 wool support loan programs. Approximately 30 million pounds of the 1954 clip have been placed under loan by producers.

next time they make a purchase. And if you ask skillfully enough, you may even learn what they would buy, if they were not limited to the products offered and available.

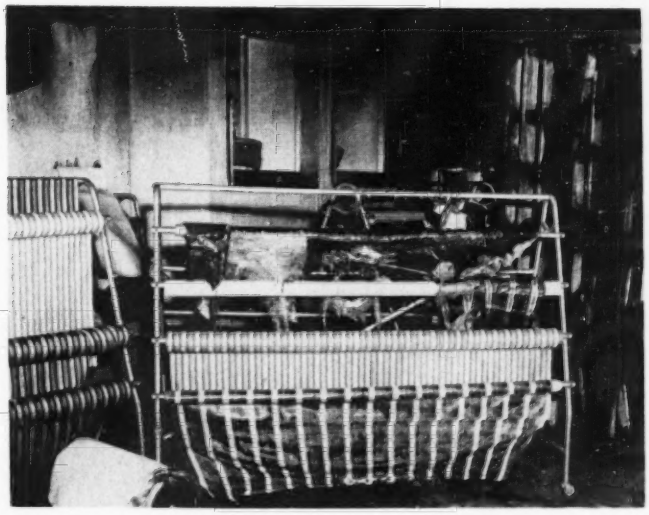
If the questions asked are sufficiently comprehensive in scope, the accumulated information will serve a manifold purpose. Basically, these data can and should serve as the starting point for programming the entire marketing and merchandising plan and indicate:

1. What products should be made.
2. What changes should be made in existing products.
3. How the product should be advertised to capitalize on consumer wants and needs.
4. What type of retail outlet will move the goods most quickly and most profitably.
5. How the product should be merchandised at the point of sale.

This information will become available to you because you've asked and determined (a) what products are most in demand, and why, (b) whether the consumer actually bought what she wanted, or bought the best substitute she could find (c) what factors were most important in the consumer's consideration of each product (d) how those factors were weighed in the consumer's mind in order of preference (e) whether she bought or will buy because of style (line and color) wear, ease of maintenance, ease of use, or price.

Once the consumers' wants are determined, a good third of the job has been done. Now the product must be advertised; the customer told that the product exists; reminded that it will perform in the requested manner; must be lured to the retail counter with simple, descriptive, persuasive advertising.

The creation of that kind of advertising is at once easier and more difficult. Easier in that campaign themes rise naturally from the data on consumer wants; difficult in that the creative work involved is bound now by the restrictions of the hard, known facts. No more gay, coy slogans that tickle your appreciation for alliteration. No more artwork selected because the president thinks it lends prestige. No, only advertising that insists on hard sell, and is based on



Automotive Upholstery Shop Gutted By Fire; Stock of Nycar Fabric Undamaged

Dramatic proof of the heat and flame resistance of high tensile Nycar, automotive seat cover fabric manufactured by Ellenboro Mills, Inc., of Kings Mountain, N. C. (story in TI for April, 1954, page 161), was furnished by the recent hours-long fire which gutted the establishment of King Kovers, Oakland, California, automotive upholstery dealer.

King Kovers' entire stock of plastic auto seat covers and rolls of plastic fabrics was totally destroyed by the blaze, while the rolls of Nycar, which were intermingled with the plastics on display racks, remained totally undamaged.

Ralf Maki, owner of King Kovers, said "the entire front half of the building was gutted by flames and the rear half was damaged by the heavy acrid smoke of burning plastic."

"Our entire stock of plastic seat covers," stated Mr. Maki, "valued at $8,000 cost, was burned and melted to an unrecognizable mass of rubble. Our rolls of plastics on chrome fixtures in the display section of the front were subjected to heat and fire and the parts that did not burn completely were so melted that they resembled icicles hanging from the eaves of a roof.

"The Nycar rolls intermingled on the same fixtures, and subjected to the same heat and fire, came through without any damage. After the fire was extinguished and before the cleaning-up process was started, it was a topic of conversation among the firemen, photographers, reporters and general public how Nycar was not in any way damaged, whereas the plastic had either burned or melted completely."

The insurance adjuster subjected the Nycar rolls to stringent tests of their strength, color, and flexibility. At the conclusion of the tests he refused to allow any claims for the Nycar, declaring that it had not been damaged in any fashion and remained perfect merchandise.

nothing but hard facts.

At this point, you've come a long way on the road to successful sale of your product. And the job still isn't done. Countless surveys have proven that in spite of the most comprehensive programs to establish consumer wants and despite the most persuasive advertising, the sales potential of a product was not realized because the manufacturer was willing to rest his case at that point.

You haven't sold a thing until the goods are actually in the consumers hands.

True, this is primarily the retailers responsibility. What he buys, he should be able to sell. But if you are concerned with selling your product in competition with the hundreds of others items on those same retail shelves, it is your problem, too. And the retailer will justify in extra sales, every effort you expend on his behalf. . . . every move you make to help him move goods. This is merchandising . . . . and covers everything you do to make it easier for the consumer to buy your product . . . . and come back for more.

Counter and window display material, racks to encourage impulse buying, the shape, color and size of the package . . . . these are some of the aspects of merchandising that concern what happens, or fails to happen, at the point-of-sale.

Again, how you merchandise must be based on a research of the facts . . . . the facts about what actually happens at the point-of-sale. Briefly, it means that your every merchandising effort must be created with a thorough understanding of the retailers problems in handling your product, rather than based on some arbitrary notions of your sales promotion department.

Hard sell starts with hard facts . . . . facts about what the consumer has bought and will buy. Hard sell ends with hard facts . . . . facts about your retail outlets that determine how to move your goods those last few feet.

It's late, but not too late, for the textile industry to expand its insistence for hard facts from the laboratory into the market. And a sound, comprehensive program can only mean increased sales, increased profits—and perhaps at long last, an end to "boom and bust."

STOP wasting time with WASTE

Woolen mill collects and bags waste in department where it is made

Staff Prepared

EXCLUSIVE

ON-THE-SPOT collection of waste is the feature of a versatile bagger developed by the W. W. Windle Co., Millbury, Mass., a woolen waste mill whose operation includes sorting, carding, dusting, blending, and nub making.

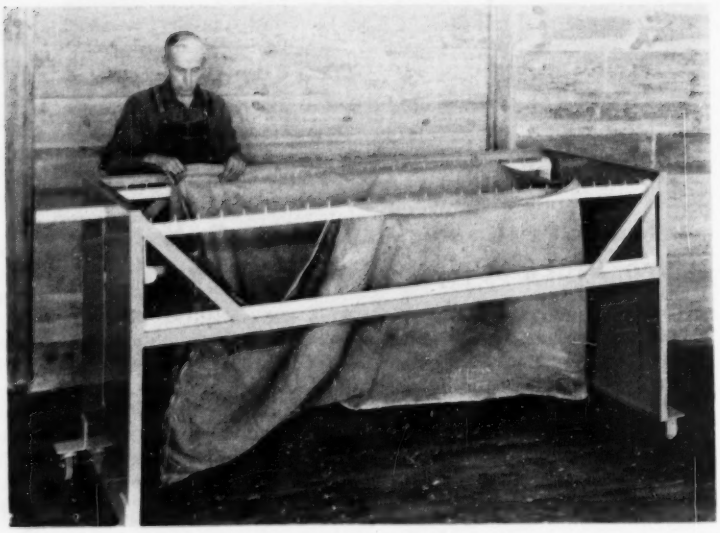
The principle of the bagger represents a departure from the practice of collecting waste at central mill points; the unit is designed to be wheeled to waste sources—waste is bagged right where it is made.

Time and labor saving features of the bagger include ease and safety of operation plus elimination of multiple handling common to other methods of bagging. Automatic self-compression does away with manual or mechanical plunging to pack the bags.

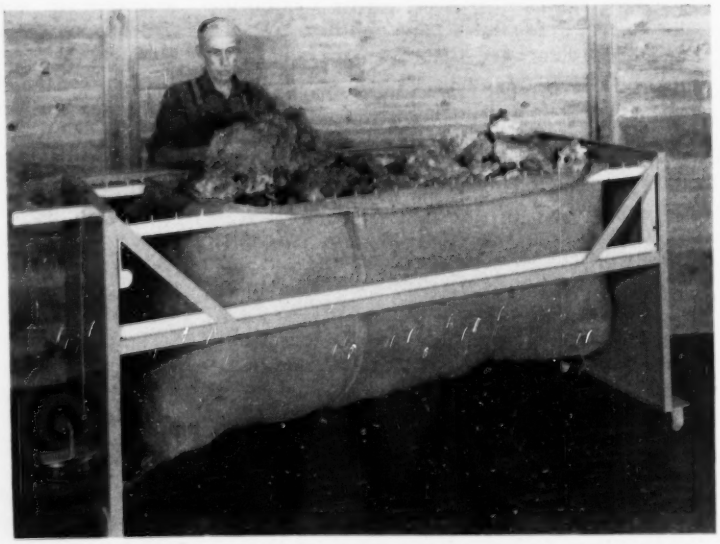
How It Operates. The bagger consists of a steel frame 3½ ft high x 7¾ ft long x 2¾ ft wide, mounted on steel casters. The frame, accommodating a weight up to 300 pounds, is fitted with two pin-bearing horizontal arms which are connected with joints fastened to the frame ends.

The arms are given their opening, closing, and pin rotation motions by a handle, projecting through a vertical slot in one side of the frame. The handle is locked into the base of the joint in the up or arms-open position. It is unlocked by a manual pull-out and gravity thrust downward, to close the arms and at the same time rotate the pin row in the arms from their up or starting position to their down or bag ejection position.

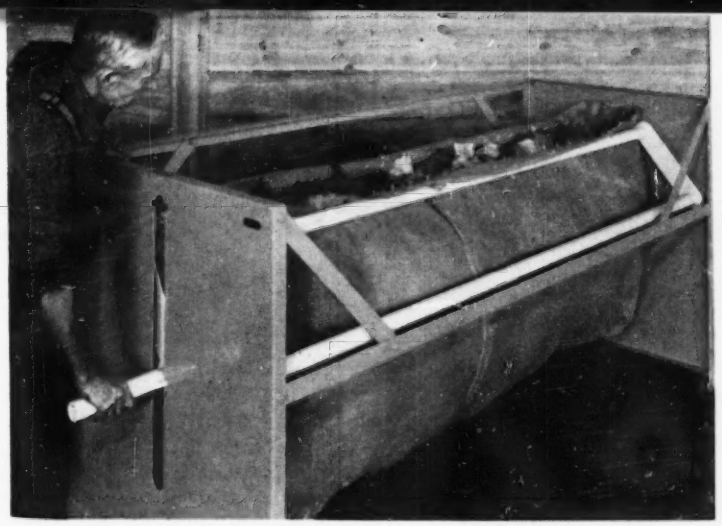
The burlap bag is fitted onto the bagger with its long ends parallel to the horizontal arms by placing



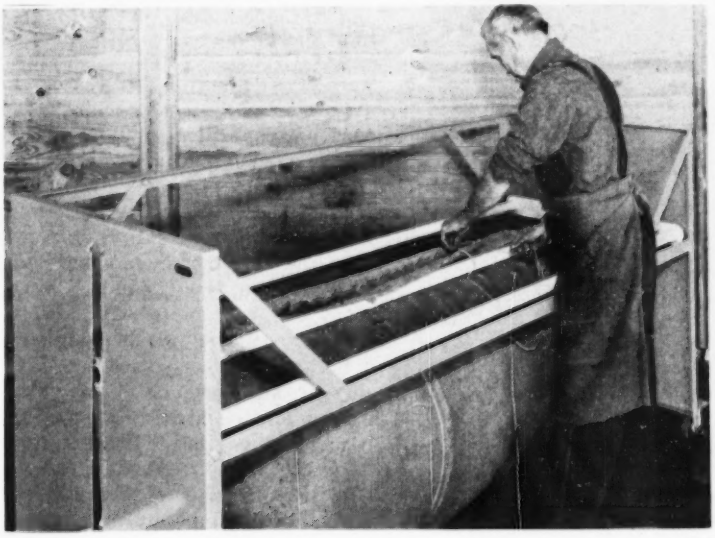
1 **BURLAP IS HUNG** on the pin-bearing arms. This is done with the long seam open and the arms completely open. Note upright position of pins.



2 **BAGGER IS WHEELED** to desired location or locations and filled. Frame will support a 300-pound load. Position of bag in frame allows equal and firm packing.



3 **BAG IS CLOSED FOR SEALING** by unlocking arm joint with manual pull-out. Weight of bag closes arms, compressing stock automatically.



4 **BAG IS SEWN SHUT** when release lever is at botton position, lowering bottom of bag to within about 2 inches of floor. Bag can also be sealed shut with staples and clips.

5 **BAG IS EJECTED** by releasing two catches at the head of the machine. Pin-bearing arms rotate so that pins point straight down, dropping bag to floor.

the edges of the two sides into the arm pins. Both short ends being closed, a bag with its long seam open hangs in the frame ready to receive waste.

When the bag is full, the handle is pulled out; the weight of the contents closes the arms and at the same time compresses the waste. With both arm pin rows facing in at an angle the downward thrust on the handle is stopped by the base of the slot so that the bag is about 2 inches off the floor.

The open seam is sewn, stapled or clipped, and two catches released allowing the arms to rotate freely. The pins rotating downward eject the bag to the floor.

How It's Used. The Windle Co. has put the horizontal bagger to two uses in the mill: collection of waste in the card room and at wool waste sorting benches.

The mobility feature of the bagger is used to advantage in the card room. The unit, requiring little storage space, is moved to the location in the department where waste collection is appropriate. Since most card room waste is dirty, the bagger also performs a segregation function, eliminating sorting from large common waste collections.

Sorting benches, used by Windle to separate various grades of waste coming into the mill, are backed up by the baggers. Sorting personnel, very often women, find that manipulation of the full bag of sorts by the simple, hand-operated, high compression closing, sealing, and ejecting sequence is convenient, clean, and requires very little exertion.

Other Uses. The bagger, currentrently being marketed as the Windle Horizontal Bagger, is finding varied usage.

One mill is using it as a portable device for collecting floor sweeps throughout the entire mill.

Another replaces sheeting collection and storage in the picker room with the bagger for interim blending.

While applications of the Horizontal Bagger have so far been in woolen mills, it is readily applicable to any weight and type of synthetic, vegetable or animal fiber.

How Hathaway Dyes 5-lb

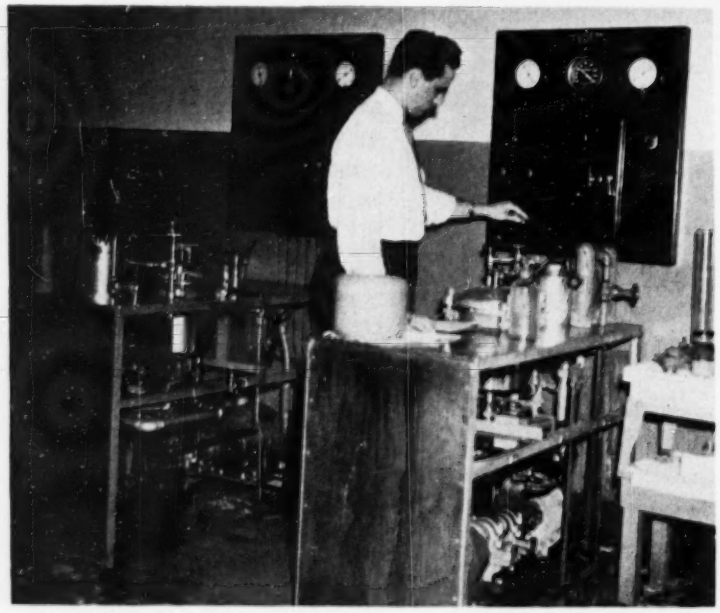
Staff Prepared

EXCLUSIVE

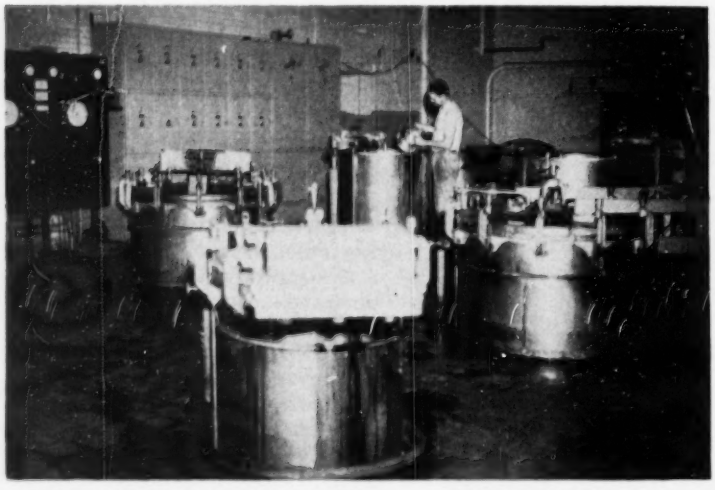
A WIDE RANGE of fast-dyed colors has been applied to 5-pound cheeses made from 40s/1 cotton at Hathaway Manufacturing Company, New Bedford, Mass.

Although the work done thus far has been experimental, on a limited number of packages, indications are that commercial lots can be dyed with good results using the large package with no changes in formulation or procedure from that used with 2½-pound cheeses normally run.

Basic to the development of this method is the design of the core, and the capabilities of the winding equipment.



MATCHED PAIR OF LAB MACHINES is used for evaluating the big package dyeing. Machine on the right contains a 5-pound package, the one on the left two 2½-pound packages. Same formula and procedure are used on both.



THERE ARE 5 DYEING MACHINES of various sizes, so that dye lots of from 1600 pounds down can be handled. The 5-pound packages have been spotted in with various dye lots and have matched the rest of the lot.

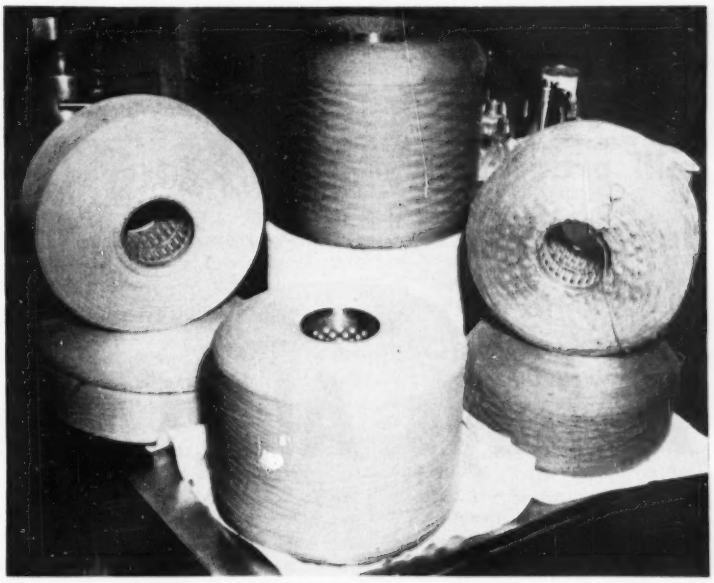
The Dyehouse. The two-year-old yarn dyeing unit is built around five Morton-system machines of various capacities manufactured by the Morton Machine Works, and designed to pressure dye 2½-pound cheeses. By proper loading, and with the possibility of running the machines in tandem, dye lots of from 1600 pounds downward can be handled. Hathaway does not dye one-pound packages.

Servicing these machines are several auxiliary units: a yarn carrier loading area, grey storage room on the ground floor of the dyehouse; and at the loading end of the dyeing machines, three 5-port dryers, time, temperature, and motor control instrument panels, drug room, and a laboratory housing a matched pair of five-pound machines, all located on a mezzanine.

Important to the evaluation of the commercial possibilities of lab dyeing is the fact that the Morton machines have the same liquor flow (5 gallons per minute per package), and bath factor (1.3 gallons of liquor to 1 pound of yarn) in both the lab and production units.

The Package. Impetus for development of the dyeing was supplied by the introduction of the Type "D" Barber-Colman automatic spooler. It can produce packages, varying slightly with the count, up to 6 pounds with a 10-inch diameter and a 5⅞-inch face at a maximum speed of 1200

Cheeses



SAMPLE DYEINGS of 5-pound packages, with the normally run 2½-pound cheeses. Note type of core used on the smaller package and compare with the revised design of the core used in the big package.

"Textile Industries" staff photos, courtesy Hathaway Mfg. Co.

yards per minute.

After initial trials were made at Hathaway, a package 8½ inches by 5⅞ inches, weighing five pounds, wound at a speed of 1000 yards per minute, and containing about 168,000 yards of the 40s/1 was determined to be the best. Package density of the 1000 yards-per-minute type "D" cheese paralleled the density of the standard 2½-pound package wound at 1100 yards per minute on the Type "C" machine. Keeping the density the same from package to package and from one package size to the next is important — such packages can safely be mixed within a dye lot for more economical runs.

The core first used was made at the mill by welding two standard 2½-pound cores together; solid tube ends, however, caused resistance to liquor flow at joinings and some speckiness in dyeing.

A stainless steel core 2½ inches in diameter with large uninterrupted perforations was then developed by the Hathaway and Barber-Colman companies and found satisfactory.

Dyeing. As noted, the dyehouse is set up to allow for close correlation between lab and big-scale dyeings.

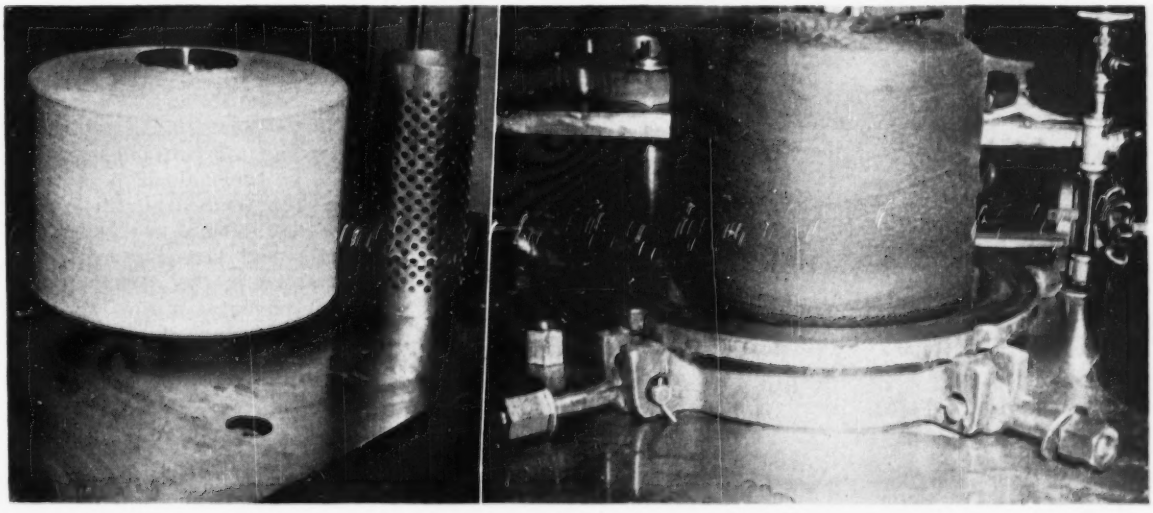
Runs on the five-pound cheeses were made in two ways: (1) by lab dyeing one five-pound cheese side by side with the 2½-pound cheeses in the two lab machines, and (2) by spotting the big packages in with regular runs. No special care was taken with them other than to make sure they received the same treatment as other packages.

Dyes used on the 5-pound pack-

(Continued on page 233)

UNDYED PACKAGE AND CORE on which the 5 pounds of 40s/1 cotton is wound. Package measures about 8½" x 5⅞" and is wound at 1000 yards per minute to obtain a good dyeing density.

THE DYED 5-POUND PACKAGE being removed from the lab machine will, upon checking with dyeings from the mate machine, match the smaller cheeses in every respect and be consistent throughout.



Research tool today—common mill practice tomorrow?

The sixteenth article of a series dealing with research work and the practical application of research findings in the mill.

X-Rays Aid Cotton Research

By Leon Segal and Carl M. Conrad
Southern Regional Research Laboratory[1]
New Orleans, Louisiana

EXCLUSIVE

NEARLY everyone has had occasion to observe the application of x-rays in medical diagnosis. Familiar also is the use of x-rays in the foundry industries to detect flaws in large metal castings.

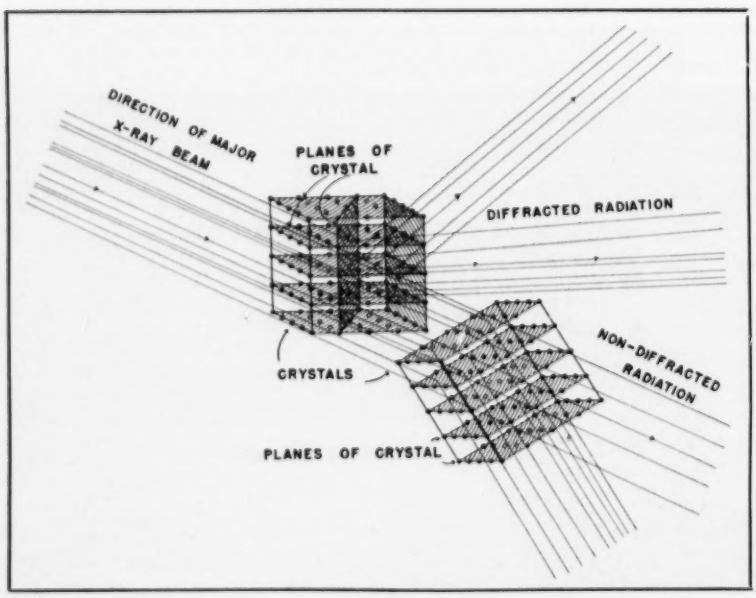
Less publicized, perhaps, is the use made of x-ray techniques by physicists and chemists doing research on textiles to obtain fundamental information on the molecular structure of fibers.

X-Ray Diffraction Patterns. X-rays have been known since 1895; a German physicist, W. K. von Roentgen, produced them by a discharge of electricity in a vacuum tube. They are similar in nature to ordinary light, except that their wave length is much shorter. Partially because of this short wave length, x-rays can penetrate most opaque materials, whereas visible light can pass through only transparent materials.

X-rays are like ordinary light also in that they can be "reflected." When a beam of x-rays is directed at a crystalline substance, most of the rays pass through, but some are scattered (Fig. 1). The scattered rays are "reflected" much in the way that visible light is reflected from mirrors. In this case the "mirrors" are the atoms of the crystalline substance lying in regularly spaced and recurring planes.

If the planes of the atomic centers are in the proper position to throw all of the "reflected" beam in the same direction, the scattered portions of the beam will, due to a principle of reenforcement, give rise to spots (or to arcs, with some materials), and these spots (or arcs) can be photographed to show a characteristic x-ray "diffraction pattern" of the material.

FIG. 1. Diagram of x-ray beam diffracted by planes of atomic centers. There are many possible planes, and each will diffract some radiation. (From "Better Cottons," U.S.D.A. Bureau of Plant Industry, Soils, and Agricultural Engineering.)



Speedier Methods. For a long time the photographic method of recording the diffraction pattern was the conventional or accepted one. This method is still in wide use, and several makes of machines and accessory equipment are on the market. But the photographic method is slow and tedious, requiring a photographic laboratory and skilled personnel, and strict adherence to standard-

[1]One of the laboratories of the Southern Utilization Research Branch, Agricultural Research Service, United States Department of Agriculture.

ized conditions.

A few years ago, a much more rapid method became possible. It completely eliminates the need of photography, by substitution of a sensitive Geiger counter tube in an x-ray spectrometer and a recording potentiometer. The amplified output of the Geiger counter tube is led to a strip chart potentiometer recorder which traces a continuous inked curve indicative of the x-ray diffraction intensity as the window of the tube intercepts the diffracted rays.

In a variation of the method using the Geiger counter tube the amplified output can be led to an electronic counter circuit which can give a numerical count of the electric impulses. The count is proportional to the intensity of the x-ray beam and somewhat more sensitive and accurate than the traced curve.

Crystallinity of Cellulose. Since the x-ray diffraction pattern of every crystalline substance is characteristic and distinctive, x-ray techniques are a valuable tool in studies of molecular structure. They can be used, for instance, in studies of the various cellulosic fibers—cotton, rayon, ramie, etc.—to obtain knowledge of differences in the nature of their crystal structure, of the proportion of crystalline and noncrystalline (amorphous) substance, of the mutual arrangement of crystal axes (crystallite orientation), and of the size of the crystallites.

Cotton cellulose is not a single crystal but rather a crystalline aggregate. Therefore, the crystalline regions in cotton cellulose do not

What Does This Mean to the Mill Man?

X-RAYS are routinely used today in certain industries as a production tool, and have found application by physicists and chemists in textile research.

Adoption of x-rays as an aid in producing better textile raw materials and for process and quality control in textile manufacturing is now in the foreseeable future.

Plant breeding experts of the Department of Agriculture have found that x-ray examination provides a rapid and accurate means for determining differences in strength and other fiber qualities among experimental breeds of cotton, enabling breeders to choose new strains most likely to produce cottons of improved value to the mill.

X-ray examination quickly distinguishes the steps in the transformation of cellulose during the mercerization process, and the future role of the x-ray technique may include its acceptance as a standard method for controlling the process to small tolerances.

The use of x-rays is already common in fundamental studies of the cotton fiber, and the rayon industry recognizes and uses x-rays as an important implement in the evaluation of the products made under various spinning conditions.

The development of new types of chemically modified cotton fabrics has increased the need in the industry to investigate basic fiber structural changes. This need, together with the availability of the speedier, more simplified x-ray methods, should give greater importance to future use of x-rays in the cotton industry.

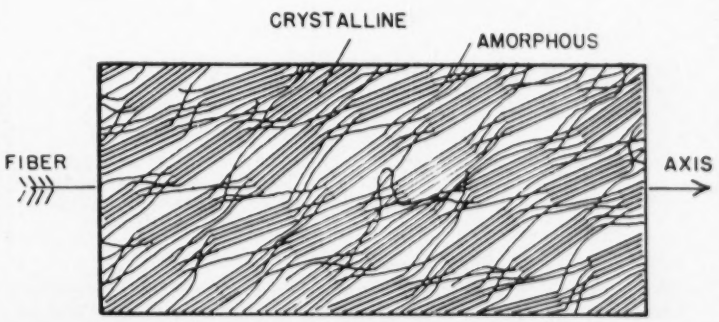


FIG. 2. Schematic model of cellulosic structure in the cotton fiber, representing crystalline and amorphous regions. The model is intended to represent a single membrane layer of the cellulosic structure along the fiber axis.

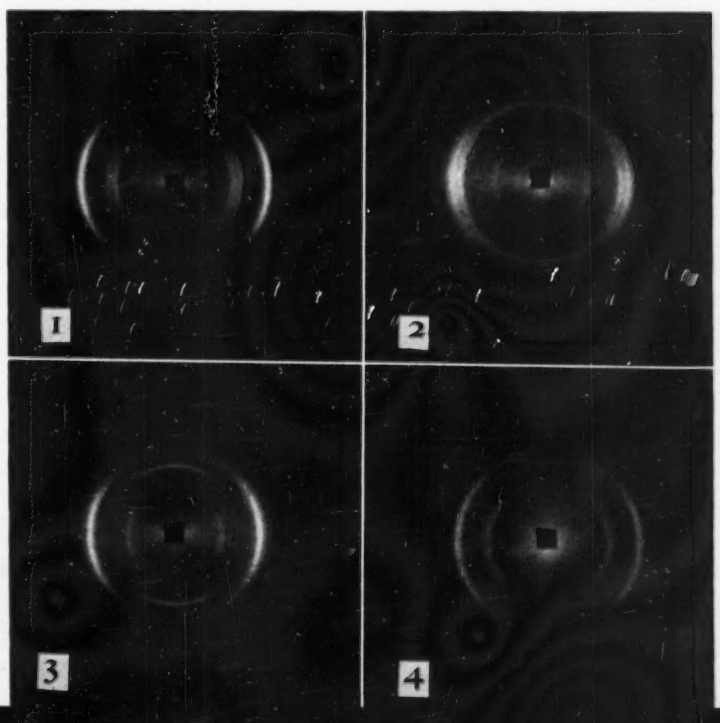


FIG. 3. Photographs of x-ray fiber patterns of the four crystalline celluloses from cotton. 1. Cellulose I (native cotton). 2. Cellulose II (mercerized cotton). 3. Cellulose III. 4. Cellulose IV.

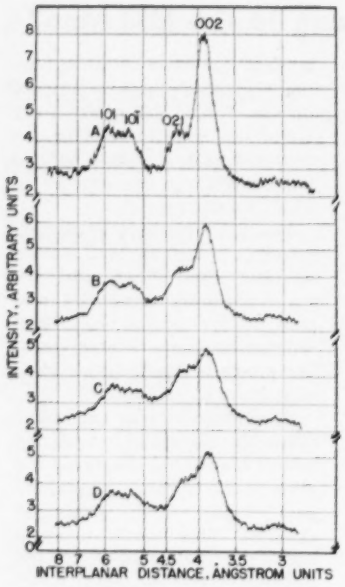


FIG. 4. Changes in x-ray intensity along the equator of the cellulose I fiber pattern from cotton treated with ethylamine. A. Original cotton. B. After 5 minutes. C. After 4 hours. D. After two-bath treatment. The numbers on the peaks identify the crystal planes giving rise to the diffracted beam. Reduction of intensity is brought about by reduced crystallinity.

(exemplified by mercerized cotton and by rayons).

In a sample of cotton undergoing mercerization the transformation of native cellulose to hydrate cellulose can be readily followed with x-rays. Diffraction patterns can be photographed at short intervals and observed; the native pattern fades as the hydrate pattern appears. Or the positions and relative intensities of the arcs can be measured on the photograph. This type of determination provides a true index of mercerization, since the position and intensity of the arcs arise directly from the degree of change in the crystal lattice brought about by the chemical treatment.

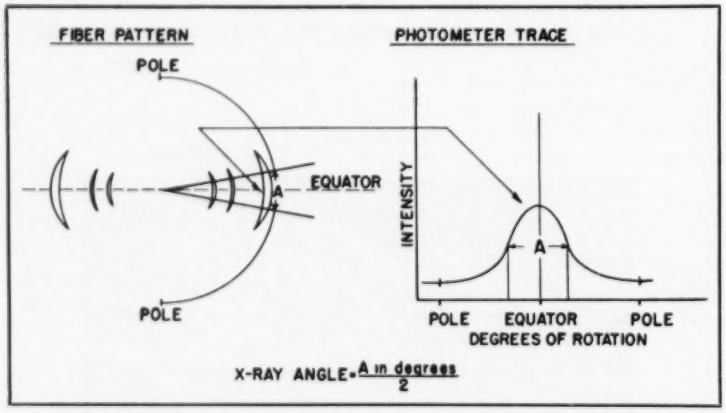


FIG. 5. Method of obtaining x-ray angle from fiber pattern photograph.

have sharp boundaries—they are interspersed with less crystalline areas and with some wholly noncrystalline (amorphous) areas (Fig. 2). This is another way of saying that among the long chains of cellulose molecules in cotton—sometimes thousands of glucose units long—some portions are in an orderly arrangement with respect to their neighbors while other portions lie in a disoriented, or random arrangement.

Crystal Types. X-ray studies of the cellulosic fibers have shown 4 distinct crystalline types of cellulose (Fig. 3). Two of these have been well characterized: native cellulose (found in native cotton, ramie, etc.) and hydrate cellulose

Crystallinity. As the proportion of crystalline cellulose present in a fiber decreases, the intensities of the arcs in the diffraction pattern become lower. If in the photographed diffraction pattern only a broad halo appears, it can be assumed that little or no crystal structure is present. This effect can be achieved mechanically by grinding cotton fiber, and chemically by treatment with ethylamine (Fig. 4).

In all celluloses of the same type (native or hydrate) the locations of the arcs about their centers in the diffraction patterns are the same. They are fixed by the positions of the diffracting planes within the crystallites.

Orientation. The lengths of the arcs in a fiber diffraction pattern are set by the degree of deviation of the axes of the crystallites with respect to the fiber axis.

When a bundle of paralleled, purified cotton fibers, for example, is properly aligned in an x-ray beam of a narrow wave band, it gives diffraction arcs which are longer than those given by ramie.

It is known that the relative length of the principal or most intense arc in the native cellulose pattern is roughly proportional to, and can be taken as an index of, the mean angle between the fiber axis and the spiral axes on which lie the individual crystallites. This is sometimes called the "x-ray angle." This value is thus a measure of the mean orientation of the crystallites.

The x-ray angle is measured by taking the site of greatest intensity of the arc, which is usually the center, as the starting point and making measurements on each side until the intensity has fallen off to some fixed proportion—say, either 50% or 40% of the maximum above the base (Fig. 5). Thus, the entire length of the arc in angular degrees is not measured, but only a portion of it. The angular distance between this point and the center is called the "half-maximum angle," or the 40% angle, depending on which proportion was used.

Crystallite Size. Within the relatively narrow range 0.1 to 0.005 micron, x-ray diffraction patterns provide a means of measuring crystallite size. In powder patterns, as the crystallites become smaller the diffraction rings become broadened; in fiber patterns the corresponding arcs are broadened.

If the crystallites are agglomerated into particles of a number of crystallites, then the line broaden-

ing corresponds to the individual crystallites of which the agglomerate is composed. The application of this technique is still complicated and relatively little use has been made of it in cellulose studies.

Applications to Cotton. The crystallite structure of a particular cotton variety or sample determines many of its important physical properties. High strength and low extensibility (elongation) are associated with a high percentage crystallinity and with relatively good orientation of the crystallites with respect to the fiber axis. Decreases in chemical reactivity and in moisture regain are associated with high degrees of crystallinity.

In research by the Department of Agriculture's former Bureau of Plant Industry, applications of x-ray techniques to cotton have shown that the x-ray angle varies greatly among varieties of cotton and that it is also strongly affected by the conditions under which the cotton was grown. The technique can be used therefore by breeders to differentiate unusual varieties and those affected by environmental conditions. The x-ray method enables the breeder to select good strains of high strength for planting, since fiber damage does not change the orientation even from among field-damaged cottons.

The Bureau of Plant Industry has standardized methods of preparing sample bundles and taking x-ray diffraction pictures so that a technician can rapidly obtain by x-ray examination information for breeders which would be slow or difficult to obtain otherwise.

Other studies by that same Bureau have shown that the x-ray angle is closely correlated with fiber strength. The greater the orientation of the crystallites around the fiber axis the greater in general is the fiber strength.

Intensive studies of the crystallinity of cotton cellulose by means of x-ray techniques have been conducted by the Southern Regional Research Laboratory. One result of that research has been the development of a simple, rotating specimen mount (Fig. 6), for use with the x-ray spectrometer. The simple apparatus permits obtaining a tracing showing the intensity variation around a selected diffraction arc in a matter of minutes, as compared to many hours formerly necessary, with less effort than before, and, of course, without the necessity of photographic processes. Fig. 7 shows such a tracing from Stoneville 2B cotton made with the rotating specimen mount.

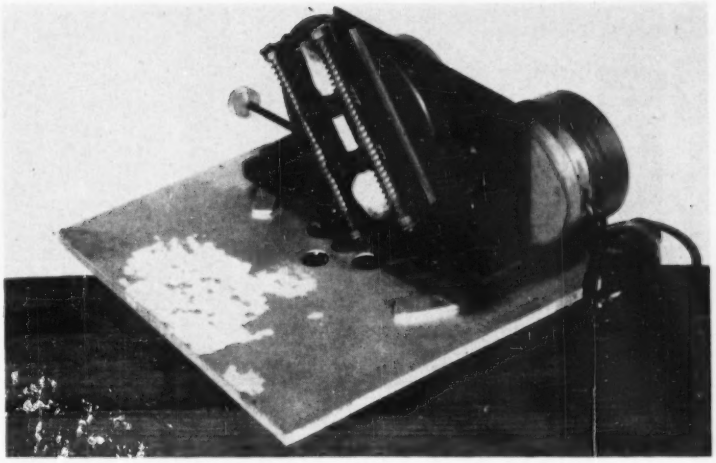


FIG. 6. Rotating specimen mount developed for use with the x-ray diffraction spectrometer in determining the crystalline orientation of cotton fibers.

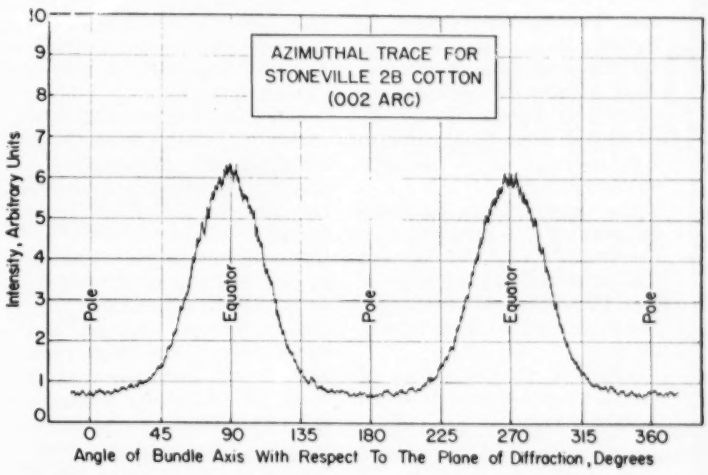


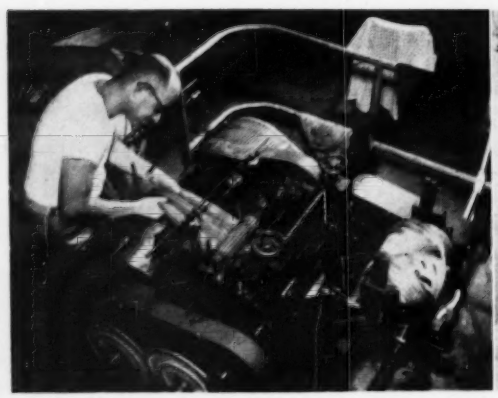
FIG. 7. Azimuthal x-ray spectrometer trace obtained with the rotating specimen holder.

Comparison With Other Methods. X-ray diffraction has a greater range of applications than almost any other single technique. The wave length of x-rays, being of the same order as that of atomic dimensions, makes this technique ideal for the identification of crystalline structure, such as the four forms of cellulose.

For measurement of crystallinity of high polymeric semicrystalline substances it is still in an empirical state and competes with other empirical or semi-empirical procedures based on density, heat of melting, moisture adsorption, and kinetics of oxidation, hydrolysis, and deuterium exchange.

Its ability to reveal crystalline states without destruction or alteration of the molecules gives it a certain inherent advantage. For crystallite orientation it is superior to the polarized light method in simplicity, and to electron diffraction for its power of penetration.

It is limited in its application to particle size analysis due to its restriction to crystalline particles and to its narrow range of magni-



QM Research and Development Center Dedicated

On October 14, 1954 the Army Quartermaster Research and Development Center at Natick, Mass., was dedicated "to the protection of this nation's combat forces from the stresses of war through functionally suitable food, clothing, organizational and personal equipment."

The Center houses the headquarters of the Quartermaster Research and Development Command and includes most of the Quartermaster Corps research and development laboratories.

Activities at the center of special interest to readers of this magazine are:

1. *Textile Functional Laboratory:* Research includes the study of the modification of the properties of textile fibers, yarns, and fabrics by the application of functional finishes to the material, such as fire resistant treatments for clothing for soldiers in combat as protection against flame and thermal radiation; treatments to prevent shrinkage of textiles; processes for imparting water-resistance to textiles; the development of means for preventing attack by microorganisms; and the determination of methods for preventing degradation of textiles upon outdoor exposure and in use.

2. *Textile Engineering Laboratory:* Conducts research on the application of textile fibers and fibrous materials to military textile uses, with particular emphasis on the effective utilization of the properties of new fibers as substitutes for such strategic materials as wool and waterfowl feathers and down. Investigates fiber, yarn, and fabric properties as a basis for evaluating materials and determining their most effective utilization in the engineering of textile fabrics and of all kinds of fiber aggregates for filling materials. Designs and develops fabrics for use in combat clothing, tentage, equipage and personnel armor.

3. *Textile Dyeing Laboratory Branch:* Conducts research on dyestuff formulations for shade standards and to achieve optimum fastness properties; prepares functional tolerance ranges to be used in the evaluation of procured textiles, particular emphasis being placed upon the military needs as well as the ability of industry to produce; studies methods of coloring to achieve definite camouflage; investigates the effect of various manufacturing operations used in the wet and dry finishing of fabrics in relation to their effect on color and fabric appearance; studies methods of evaluating durability of cloth to exposure and to the various treatments which the fabric undergoes in use.

Secretary of the Army Robert T. Stevens, in addressing those assembled for the dedication ceremony, said in part:

"This new laboratory center . . . is convincing evidence of the tremendous importance the Army attaches to its research programs. . . . We have been accused of failing to carry on research on an appropriate scale. In this connection, I think it is significant that last year the Army spent more on research and development alone than its entire expenditure for all military functions in any year from 1922 to 1939."

tudes, but is relatively suitable within these limits.

The rapidity with which data can be obtained using the x-ray method makes it especially valuable in comparative determinations.

Future Role. The rayon industry recognizes and uses x-rays as an important tool in the evaluation of the products made under various spinning conditions. But although the x-ray diffraction techniques are being used by researchers in cotton breeding and in fundamental studies of cotton, it has found little application so far in the cotton industry for purposes of quality control.

The development of new types of chemically modified cotton fabrics has increased the need in the industry to investigate crystallinity changes. This need, together with the availability of the speedier, more simplified x-ray methods, should give greater importance to the use of x-rays in the cotton industry in the future.

REWOUND FILLING AND MILL CLEANING HIGHLIGHT STA CLEMSON MEET

ATTENDANCE at the meeting in the Clemson College textile school auditorium was good.

PANEL answered questions posed by members of the audience. Left to right, Alex Crawford, Joanna Cotton Mills; George Huguley, Clinton Cotton Mills; Joe Jenkins, Kendall Mills; W. M. Pittendreigh, Riegel Textile Corp., who conducted the meeting.

Staff Report

MEMBERS of the South Carolina Division of the Southern Textile Association met in the Textile Building at Clemson (S. C.) College on Saturday, October 2, 1954. W. M. Pittendreigh of Ware Shoals, chairman of the Division, conducted the meeting.

S. A. Roane of the Abbott Machine Company delivered a discussion on the use of rewound filling yarn in weaving. Mr. Roane's comments brought forth some questions from the audience. One man wanted to know what counts of yarn permitted the most saving by quilling. It was indicated that the break even point was about 20s. However, one experienced mill man said 30s would be closer to the break even point. The most saving is effected on coarse counts.

Someone asked how many rewinding spindles are required per 100 looms. Mr. Roane stated that about 80 quilling spindles is satisfactory for 100 looms.

Another mill man asked for some indication or basis for figuring the cost per pound of rewinding yarn on quills. Considerable variation would exist from mill to mill, Mr. Roane indicated. However, quilling cost stays uniform. Although package content would vary from 3 to 10 oz on each filling bobbin, production may be maintained at 200-225 lb per hour. Cost, therefore, would depend upon wages paid in the mill. (See extract of Mr. Roane's paper, page 123.)

A discussion on practices in carding, weaving, and spinning was based on a questionnaire which was sent to the mills prior to the meeting. Twenty mills submitted answers to the questions by mail, and further discussion followed at the meeting.

Cleaning Walls. The first question on carding asked for information on cleaning practices. Six mills reported using ceiling cleaning equipment; one mill had glazed tile walls and used water and sponge to clean; eleven mills used no special cleaning equipment in the card room.

Five mills reported blowing down overhead once every eight hours when no special cleaning equipment was used. Four mills scheduled blowing down overhead in the card room once every 24 hours; two mills, every 40 hours; and six mills, once each week.

Cards. The cleaning cycle on cards ranged from once every two hours to once every 24 hours, and one mill reported cleaning the base of each card once a week with solvent.

Drawing. Most mills in this group practiced cleaning clearers and wiping fronts every doff on

drawing frames. Rolls were scheduled for cleaning at intervals of five to eight or ten days. One mill kept rolls clean by blowing off with compressed air each doff. Roll scrubbing was done at intervals ranging from ten days, twice weekly, and twice yearly, according to comments at the meeting.

Roving. In explaining cleaning cycles on roving, most mills cleaned clearers and flyers each doff. General frame cleaning was scheduled on 8-, 24-, and 40-hour intervals. One man stated at the meeting that roll pickers were used on rolls as well as flyers at each doff on 2-3 hank roving. 16 mills used roll pickers on roving frames.

The frequency of cleaning rolls on roving frames varied from 8 to 72 hours among those mills answering the question.

Someone suggested that mills using Accotex cots should wipe them with Clorox after buffing to prevent lapping.

Spinning. 15 mills used overhead frame cleaners in spinning. Comments at the meeting indicated that underframe cleaners were working well in the mill, were justified, and did a good job of cleaning.

In spinning, ceilings were blown down daily, weekly, and twice yearly among the mills answering this question.

Cleaning in Spinning. One mill man at the meeting asked how vacuum scavengers affected overhead cleaning. In answer to this question, a test was described wherein 10 frames were observed closely. The waste from five frames was collected and weighed to compare with frames equipped with vacuum scavenger systems.

The results indicated that vacuum scavengers collected the waste in reusable form instead of allowing the fibers to circulate around the room to accumulate on the ceilings and floors, thereby rendering it dirty and useless.

16 mills used compressed air for cleaning spinning frames. Someone asked what portion of the frames was cleaned with compressed air. Several mill men stated that they used compressed air to blow off from the ring rail down to the floor level.

One experienced mill man stated he did not permit blow pipes in the spinning room except to blow down overhead and to clean motors, and all frames had to be stopped while blow pipes were in operation.

Frequency of blowing off in the spinning room included intervals of 8 hours, 24 hours, 40 hours, 60 hours, and once a week among the mills answering this question. 14 mills did not clean frames while running, and 3 mills cleaned frames without stopping them.

All mills answering the questionnaire indicated that roll pickers were used in their spinning rooms. Roll picking was done once every 24 hours in most instances. Comments at the meeting indicated that roll scrubbing in spinning was usually done once or twice yearly.

In answer to a question regarding who scours rolls, it was revealed that regular overhaulers and regular cleaners did this job on Casablanca spinning, and 4680 spindles could be covered in 8 hours by specialized cleaners. It is good practice to clean rolls just before oiling to prevent slinging oil on cots, according to one suggestion.

Weaving. Experience with overhead loom cleaners was limited; however, comments at the meeting revealed that one mill obtained good results on 480 looms cleaned by an overhead system, which gave no trouble. Other results with overhead loom cleaners were experimental or inconclusive.

Frequency of blowing down overhead in the weave room ranged from twice a week to once every three weeks.

Loom Cleaning. Loom cleaning schedules and methods were set forth as follows:

Mill A. Using specialized cleaners, all looms are washed with cleaning fluid once every year. Drop wires are blown out every shift, and harnesses and reed caps are brushed every 24 hours. All looms are blown off three times each week.

Mill B. Looms are cleaned every 48 hours with compressed air.

Mill C. We blow off looms once per shift, and drop wires are blown out each shift.

Mill D. Blow off completely with compressed air at warp out. Blow off drop wires, sides of looms, and low parts daily. Harnesses on print and diapers cleaned with brush once every 6 days. All patterns are blown off at warp out.

Mill E. Looms are cleaned with compressed air every 24 hours and with brush at warp change.

Mill F. Blow off all looms every 24 hours with compressed air.

Mill G. Clean drop wires every 40 hours, filling grates every 8 hours, and entire loom at warp out.

Mill H. Blow off once every 24 hours and clean entire loom with compressed air at warp change.

Mill I. Blow off looms once every 16 hours, including fronts, backs, and under looms. Blow off when warps are out. Hand rails are cleaned once every 24 hours.

Mill J. Blow off drop wires and stop motion every 16 hours with compressed air. Clean reed caps and harnesses every 24 hours by hand. Clean filling grates every 8 hours by hand. Clean looms thoroughly with air when warp is out.

Mill K. Blow off looms twice weekly while running.

Mill L. Blow off every 48 hours and at warp out with compressed air.

Mill M. Clean cam looms once every two days with compressed air. Six-harness dobby looms are blown clean twice each week. All looms are cleaned at warp out with mops, brushes, and solvent.

Mill N. Clean looms thoroughly at warp out which is 5 to 6 weeks.

Oil on Cloth. Methods used in the weave room to reduce oil on cloth were given as follows:

Mill A. Cutouts are sent back to personnel concerned. Work of oilers is checked to determine if excessive lubricant is applied and if fittings are wiped. Looms are covered when cleaning overhead and arches. Whip roll blocks are cleaned every 6 months. Slasher men wipe beam journals every doff. Beam racks are checked for

Rewinding and Requilling Filling Yarn

By S. A. Roane
Abbott Machine Co.

It is a rather peculiar thing that mills have always been very fussy about slubbing their warp yarns and yet use the same cotton for filling yarns, with the same processing, and contend with the slubs, gouts, and other defects that are spun into the yarn and woven into the cloth.

There are many factors that bear directly on the cost of winding and quilling filling. Probably the most important of these is the yarn count and size package that can be spun. Unfortunately, most filling, regardless of yarn count, is spun on 2¾" and 3" gauge spinning frames, which limit the size package that can be spun on them. In this case, a mill on coarse or medium filling counts, that is considering filling rewinding, might further consider new large package filling spinning, which in itself offers an attractive investment return.

Several years ago we made up a list of both tangible and intangible savings which we figured would be derived from rewinding filling but in recently talking to mill executives we find that one of the most important advantages (or "intangibles") were omitted, or at least under-emphasized. This is preference in the market.

Several mill men have told us that they could not now sell the type of goods they are making if they had not started rewinding their filling.

Mill that Cannot Profit by Rewinding Filling. Undoubtedly there are mills that could not show a labor saving, such as those using very fine filling yarns. . . . because the major labor saving is in spinning doffing and if the change in rings is only say from 1⅜" to 1¾" a fairly large mill might save only one doffer per shift. Also the saving in battery hands would not amount to as much, as the increase in the amount of yarn per quill is less as the yarn gets lighter.

Other tangible savings, such as waste, are also less on fine than on coarse yarns, so if a fine goods mill disregards quality, then it could not justify the rewinding of filling.

Mill That May Break Even. There are thousands of looms that would probably come under this "break even" category, and we believe that within a very few years the majority of these will be rewinding their filling—as the market will demand quality that cannot be obtained otherwise and the ones that get set up for it first will profit most. Several mill executives have expressed this thought in our conversation with them.

Mills That Can Show a Profit. The mills that can show a labor saving sufficient to warrant the investment in new machinery want to rewind their filling. Certainly this is a case of "having your cake and eating it too" as they obtain the improved quality as well as labor saving. These mills will probably lead the parade toward changing over.

One of the major savings resulting from rewinding filling is in yarn or bunch waste, also the number of piece quills that end up in the can at the loom when running spun filling. In one mill this waste saving amounted to over $40 per loom per year.

Another saving is the automatic stacking of quills in a box, permitting the battery hand to pick up several at a time and put them in a battery much faster than when taken from a truck helter skelter.

Tangible Savings. (1) Reduction in the number of spinning doffers, usually the largest single saving.

(2) Reduction in the number of battery hands. Fewer battery hands are needed because of the increased amount of yarn on rewound quills (20 to 60%), permitting the tending of more looms per employee. Actually more looms than figured could be assigned due to the end of yarn being spiraled down to the butt of the quill and not around it, as in the case of spun quills. Much time is usually spent in unwinding this end. Sometimes it is broken instead of being unwound which often results in cloth defects.

(3) Quill stripping. Any reduction in the number of quills used of course results in fewer bunches to be stripped, so less labor is required.

(4) Quill handling. Fewer quills to be hauled, both full and empty, results in less labor needed. This, of course, also applies to removing quills from the cans in weaving.

(5) Fewer quills needed. Quills run longer in the looms so fewer are needed, which is a saving. Also, less transfers in the looms means fewer broken quills. Then too filling yarn can be stocked on cones rather than quills, and wood cones are much cheaper than quills considering the amount of yarn they will hold.

Intangible Savings. (1) Improved quality of cloth. This naturally results from the slubbing of the filling yarn in the winding process, which removes practically all slubs, gouts, and many other defects. Also the cloth is cleaner as the two winding processes knock out a surprising amount of leaf and trash.

(2) Burling. In mills that do not rewind their filling the burling is usually from 70% to 90% on filling, as the warp has been slubbed.

(3) Increased loom production. In practically every case, rewound filling results in high loom efficiency; even one per cent increase would add up to considerable money at the end of a year.

(4) Reduced amount of seconds. Most seconds seem to be caused in the loom at the filling transfer so the fewer transfers obtained from rewound filling would certainly result in few seconds. Also we are told that shuttle marks are greatly reduced.

cleanliness. Towels are given to all personnel handling cloth.

Mill B. Cloth tubes are not laid on floor prior to taking off cloth.

This prevents seconds.

Mill C. Use cloth sack over roll

Heiss Brower Suttenfield Roberts Marshall

Officials of the North Carolina Textile Manufacturers Association. Left to right: Marion W. Heiss of Cone Mills Corporation and first vice-president of association; E. N. Brower, Rockfish-Mebane Yarn Mills and retiring president of the association; W. H. Suttenfield of American & Efird Mills and president of association; J. C. Roberts of Textiles, Inc. and 2nd vice-president of association; Hunter Marshall, secretary-treasurer of NCTMA.

N. C. Manufacturers Enjoy the Calm after the Storm

The North Carolina Textile Manufacturers Association, meeting at Pinehurst October 14th and 15th, survived a storm which came along in the wake of Hurricane Hazel, literally shaking the foundations of the hotel itself. Comments, both by speakers at the meeting and by manufacturers themselves attending the meeting, indicated that the problems of the textile industry for the past two or three years might well compare with the storm which was raging outside. If this is symbolical and for what it may be worth, the storm subsided on October 15th with sun coming out in time for some of the more hardy golfers to complete their rounds.

In fact, E. N. Brower, president of Brower Mills at Hope Mills, N. C., and retiring president of the association, actually forecast an improved situation for the textile industry for the coming year.

He voiced the sentiment that textile stocks were low and that steps were being taken in a merchandising way to help buyers sell their textile goods and to get their share of the consumer dollar. He stated that, even with the mergers going on, and those proposed, no textile company would have more than 4% of the total production. He also brought out the changes in machinery in the textile field which have enabled the mills continually to increase production even on a reduced number of spindles and looms.

Recognition was given by Mr. Brower of the research and the use of science in the approach to mill operating problems and in the study of markets and consumers. He indicated that the "scientific" area for textiles would mean greater stability for textiles and an increasing share of the consumer dollar.

Mr. Brower called attention to the continued improvement of the textile industry in the South and the fact that many states farther south than North Carolina were getting a larger share of the new plants.

On the subject of foreign trade he stated that lowering already low tariffs on textiles would divert cheap labor goods from world scarcity areas to a market already abundantly covered and set back textile progress.

Joseph F. Leopold, Dallas, Texas, gave an address on "Let's Take Government out of Business." In essence, he was in favor of just this very same thing.

when doffing and rolling out. Reduce frequency and amount of oil to minimum. Have oilers wipe off excess oil. Use covers for large oil wells such as on crankshaft.

Mill D. Use bottle oilers.

Mill E. Cover looms with protective screen when blowing off other looms in area.

Mill F. Put oil in right place. Wipe excess while oiling. Bad oil spots are flagged for second hand to inspect. Fixers cover cloth while working on loom. Cloth room shows oil spots to supervisors and employees.

Mill G. Cloth doffers and cloth haulers use white gloves. Use selvage protectors on cloth rolls. Blow off stop motion while warp is on loom. Follow up on oil defect tickets. Keep cloth covered while fixer is working on loom. Have front aprons on X-Model looms. Cloth haulers should keep cloth covered with burlap. Cloth doffers should place cover on floor when taking rod out of roll of cloth. Systematically talk to everyone about oil on cloth.

Mill H. Use loom gear guards, selvage protectors, doff cloth on burlap or rag, use oil cups, and keep oil and grease off floor.

Mill I. Train blow-off men properly. Use correct air nozzles. Use aprons on front and back. Train oilers correctly. Protect surrounding looms from one being cleaned.

Doffing Model E Looms. The following suggestions were offered to keep ends from being soiled in doffing E Model looms:

Mill A. We do not permit the cloth doffer to carelessly throw cloth tubes on the floor. This assures a clean tube on the start after the loom is doffed.

Mill B. Use cloth sacks over ends of roll. Never set roll on floor in weave room. Doffers should keep hands clean.

Mill C. Doff from looms onto truck.

Mill D. Use small skid or truck that will keep end of roll off floor.

Mill E. Cloth is put on metal pan and slid out to main cloth truck. Cloth does not touch floor.

Mill F. Use selvage protector, doff on a cloth or piece of burlap.

Mill G. Put cloth sack over loom roll.

Mill H. Use sanded cloth tubes of correct size and length. Clean cloth stand regularly. Keep cloth off of floor. Wrap loom roll with waste rag before lifting from loom. Start cloth properly around tube. Do not allow cloth doffer to handle cloth with dirty hands.

HEAVY CONCENTRATION of bacteria appeared on the lower end of the baffles at the back end of the dehumidifier.

STEAM CLEANING DEVICE made in mill shop solved problem of bacteria growth by sterilizing screens.

CLEAN CONDITION of baffles one week of operation after cleaning the dehumidifier baffles and spray tank with steam.

Steam cleaning device helped full-fashioned hosiery mill

free air-wash tank of bacteria

By Sam Boyer
Wisteria Hosiery Mills, Inc.

EXCLUSIVE

WE WERE having considerable trouble in the dehumidifier of our 100-ton air conditioning system at Wisteria Hosiery Mills, Inc., in Gastonia, N. C., due to spore-forming bacteria building up a heavy concentration in the 1400-gallon air-wash tank. This concentration of bacteria, which was at first believed to be algae, proved resistant to chemical treatment.

The problem became more serious when the accumulation grew so rapidly that it completely blocked the flow of water through the screens several times daily, thereby stopping the supply of water to the Buffalo 45L pump. The pump is driven by a 15 hp motor operating at 1750 rpm, and has a 100-foot head. It delivers 400 gpm to the two sets of opposed spray banks.

The bacteria appear in the form of a grayish sludge, and grow most rapidly on the baffles closest to the surface of the water.

We tried several different chemical treatments, which all seemed to be effective for a week or more. After that time the chemicals were ineffective in controlling the bacteria.

Later we learned from a firm of chemical consultants that the fungus growth was not algae, but was a spore-forming type of bacterium of the mold family. When chemicals were applied to kill them, the bacteria formed a spore around themselves to become resistant to the applied chemicals. Therefore the chemical treatment was not effective after a short period of time.

After experimenting over a period of several years, during which time we spent a considerable amount of money on chemicals, we finally solved our problem in a simple and very inexpensive way. We obtained a 25-foot length of Goodyear ¾", 4-ply steam hose, which is rated at 100 lb test pressure.

Next we obtained a Jenkins No. 302, ½" quick-opening gate valve. The valve was connected to the steam hose through a short nipple, 45-degree elbow, and a short piece of ½" pipe threaded on one end only. The smooth end was inserted in the steam hose for a very tight fit. The leading end of the gate valve was reduced to ⅜" pipe, and a 32" length of pipe was screwed into the reducer; this made the cleaning device shown in the illustration.

The air conditioning system uses only 6 lb steam pressure for operation, so we connected the steam

Don't Overlook These Flammable Fabrics Act Requirements!

Two important and specific requirements of the Flammable Fabrics Act have been overlooked by many textile firms, H. M. Block, vice-president of the United States Testing Company of Hoboken, New Jersey, declared recently.

Mr. Block pointed out that a large number of firms have tested only *one* piece of a given style or type of fabric, whereas Rule 1 (11) of the Flammability law states, "The term 'initial test' means tests made under the procedures prescribed in Section 4(a) of the Act of specimens taken from two separate pieces of a textile fabric. . . " Thus, it is clear that the initial tests, on which guarantees are based, require the test be made on each of *two* samples of a given fabric taken from separate lots.

Secondly, many firms, whose fabrics do not contain a fire-retardant finish, have tested their fabrics *in the original state only*. To this, Mr. Block said, "Document A, which is an interpreting amendment to CS 191-53 specifies, ' . . . . when the testing is carried out by the fabric manufacturer, who knows that no fire-retardant finish is present, and that no other condition would make the material more flammable after dry cleaning and washing, it was not intended that the expensive dry cleaning and washing operation should be carried out.' This reference to *'no other condition'* means that sizings such as starch, gelatin, etc., which may be removed during washing or dry cleaning are definitely to be considered." It is frequently overlooked, said Mr. Block, that such finishes can slow the burning rate and that their removal can result in a more flammable fabric.

Now You Can Get Reliable Micronaire Results Anywhere

For reliable results when testing cotton samples by the use of the Micronaire air-flow instrument, it is no longer necessary to have controlled atmospheric conditions, a recent U. S. D. A. report* indicates.

Study of a new test procedure, which differs from the standard Micronaire test only in the method of weighing the specimen, shows that the accuracy of the reproducibility of the Micronaire values, when the tests are performed in prevailing atmospheric conditions ranging from 37% to 87% relative humidity by using this method, is within a standard error of plus or minus 0.09 micrograms per inch. (A comparable average standard error of plus or minus 0.05 micrograms per inch was obtained in a previous study in which the tests were performed under standard atmospheric conditions.)

According to the report, previous studies indicate that in tests using the Micronaire differences in results caused by atmospheric conditions are affected most by the amount of fiber included in a standard weight specimen. So, the procedure utilized in this current study was devised to adjust the weights of the specimens in order to compensate for moisture content in different atmospheric conditions, and thus provide reliable Micronaire results when controlled atmospheric conditions are not available.

Instead of using a standard 50-grain specimen, a calibration cotton which had been weighed previously in the standard atmosphere of 65 per cent relative humidity and 70 degrees F was used as the weight on the back pan of the scales. The weight of this calibration cotton changed as the relative humidity changed, and the weights of the specimens were adjusted to balance the calibration cotton.

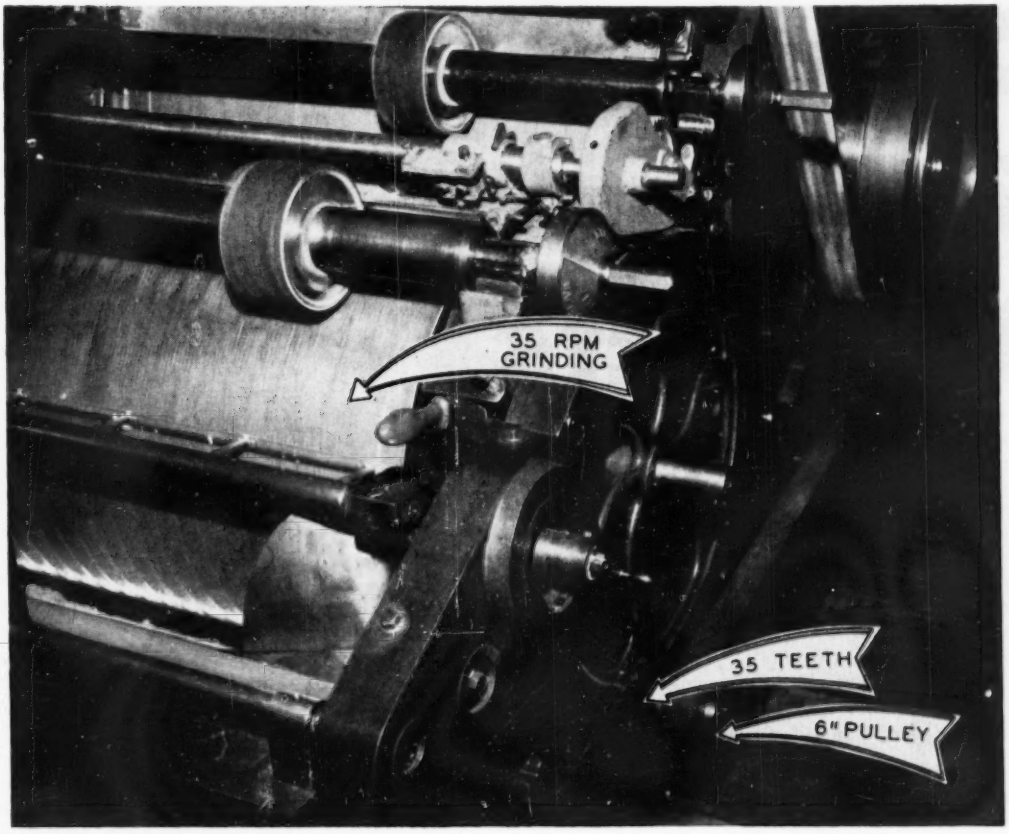
An average trend line, calculated from the results of this study, indicates that the average Micronaire value for the five cottons tested range from 4.4 micrograms per inch, when tested in atmosphere of 87 per cent relative humidity, to 4.6 micrograms per inch, when tested in atmosphere of 37 per cent relative humidity.

*"Micronaire Testing of Cotton Samples in Prevailing Atmospheric Conditions," by Joseph T. Rouse and Frank W. Schultz, cotton technologists, Cotton Division, Agricultural Marketing Service, United States Department of Agriculture, Washington 25, D. C., 1954.

hose to a close-by source of reduced pressure steam. The entire system of baffles can be cleaned and sterilized in approximately 15 minutes with this easy-to-handle device.

Formerly we used from $.80 to $1.20 worth of chemicals daily in combating the bacteria. We flushed out the 1400-gallon tank an average of once every two weeks, or oftener when necessary. When the tank was refilled it was necessary to triple the dosage of chemicals, and the overall cost of chemicals was approximately $400 yearly.

Under the present arrangement we use no chemicals, and are not using any additional spillover to keep the water clear. The steam hose and valve arrangement cost us approximately $35.00. We are no longer troubled with the bacterial condition, the water in the air wash remains clear of foreign matter and chemicals, and the conditioned air is free of the objectionable odor that once existed.



Staff Prepared

EXCLUSIVE

For a smoother finished doffer

Medium Grinding Speeds

USUALLY in grinding cards the doffer is set to turn at about 350 rpm for fast grinding. For slow grinding, the speed of the doffer is normally about 6 to 8 rpm.

After trying slow, then fast grinding, Gastonia Combed Yarn Corporation experimented with other speeds and decided that "medium" grinding speeds were best, because the results were decidedly better by comparison. A doffer speed of 35 rpm was established as the most desirable.

This speed was obtained by putting a 35-tooth production gear on the 6" barrow pulley (usually this is a 15½" pulley). The standard traverse roll operating speed of 700 rpm was retained.

The new procedure has given far better results which are evident in a much smoother finished doffer.

In grinding at the faster speeds, if the doffer is out of balance, holes or depressions may be ground into the clothing. At the slower speeds (6 to 8 rpm) a checkerboard effect may result because the doffer is moving so slowly. At 35 rpm the speed seems to be optimum, and there is no wear on bearings or journals, according to Ed Horton, superintendent.

In view of the fact that the doffer is 27" in diameter and the cylinder is 50" in diameter, when the doffer is run at 350 rpm, about three times as much grinding is done on the doffer as on the cylinder, which is running at 165 rpm. The medium grinding speed helps offset this undesirable condition.

Canadian Seminar Abstracts

EIGHT additional papers given at the Fourth Canadian Textile Seminar held at Kingston, Ontario, last September have been abstracted by the editors and are published in this issue. Appearing in the November issue (pages 91-94) were abstracts of the following:

"The Quality Bonus in a Textile Mill"; "Fiber Blending in Worsted Drawing"; "How to Get Perfect Selvages in FF Outerwear"; and "Chemical Transformation of Cotton."

All of the papers are available, complete in book form, from the Secretary of the Textile Technical Federation of Canada, 1410 Guy St., Montreal, Quebec, Canada. Price: in Canada, $5.00; elsewhere, $5.25.

Developments in Ambler Superdraft

By J. Downs
Downs, Coulter & Co., Ltd.

THE AMBLER SUPERDRAFT had its inception in 1946; by 1952 equipment was spinning yarn in a number of British and Canadian mills, and the system appeared to have justified itself under mill conditions. However, several problems appeared, and considerable study has been directed since then to their solution.

High-Angle Spinning. The first spinning frames equipped with Ambler Superdraft had their carriage rails and draft zones inclined at an angle of 30 degrees to the horizontal. The yarn, after emerging from the nip of the front rolls, passed through a conventional porcelain yarn guide, and then turned sharply at an angle of about 45 degrees on its way to the bobbin.

Mill experience showed that an abnormally large proportion of fibers was escaping. Some became waste; others wrapped around the bottom front rolls and were fed back into the yarn. The result was an uneven, rough yarn, of inferior strength and appearance.

The cause was two-fold: (1) fiber dispersion as a result of the high drafts used; and (2) the angle of the yarn at the guide prevented much of the spinning twist from running up to the zone between guide and roll nip.

Both of these factors were eliminated by elevating the carriage rails and the drafting zone to an angle of 70 degrees, and by removing the top board with its small porcelain guides and substituting ¾-inch guides of porcelain-coated wire.

Now a small balloon of yarn brushes across the bottom front roll bosses and collects fibers emerging from the nip, and twist is free to run up to the nip.

Combing Oil. Another problem met was a difficulty in drafting roving which contained combing oil. Ambler Superdraft rolls are covered with synthetic rubber in which granules of cork are embedded. These covers were satisfactory when new, but gradually developed a slimy handle and fibers began to lick around them.

This problem was solved by an emulsion containing Lissapol N [a non-ionic detergent manufactured by Imperial Chemical Industries, Ltd.—Eds.]. The beneficial action of the Lissapol N appears to result from its role as a powerful detergent, preventing deposits of combing oil from building up on the roll covers.

With an oil-combed top, we now apply to the sliver 2 per cent of a solution containing 30 parts of Lissapol N, 2 parts of sodium benzoate, and 68 parts of water by weight.

Top Front Rolls. It is no exaggeration to say that the top front roll cover is the key to successful high-draft spinning. Our problems were accentuated by the use of drafts up to 200.

During 1952, complaints began to be received of periodic variations in yarn spun with the Ambler Superdraft. Investigation showed that the period length was 11 inches — exactly the circumference of the top roll.

The basic cause of periodic yarn variation is change in the position of entry to the front roll nip, which causes a corresponding variation in the rate of take-up of the roving being drafted. Periodic yarn variation is more likely to be produced by large nip movements, high drafts, and small roll diameters.

Causes of nip point movement include varying compressibility of the roll cover, eccentric top or bottom rolls; and bottom rolls which have been strained, which have faulty couplings, or are running in damaged bearings.

The amplitude of periodic yarn faults can be reduced by increasing the tension roller weighting on the Ambler Superdraft system, as well as by minimizing nip movement.

Bleaching of Cotton

By O. S. Plantinga and S. A. Simon
Chicopee Manufacturing Corp.

THERE ARE color grades of cotton whose resistance to bleaching and dyeing is detrimental to the quality of the manufactured product; the resistance increases with lowering of the color grade. Since regularity of color is important to many mills, use of cotton whose grade for color is lower than required for the mill's normal requirements will cause streaks in finished fabrics.

Therefore, low grade color will cause difficulty even if the cotton is equal to or above good middling on a leaf basis. Gray cotton, for example, is not liked by such a mill.

What Does Bleaching Do to Cotton? When cotton is bleached, it is affected in one of three ways:

1. The reflectance of better quality cottons, where initial whiteness in the raw is already high, is generally lessened by kier boiling, probably from absorption of products from the kier liquor. After bleaching, maximum whiteness is easily attained.

2. The initial color of dull cotton is lower, and kier boiling makes little difference. While bleaching raises the whiteness level, it falls short of the better-quality cottons.

3. Gray cotton whose initial color is poor, is generally benefited by kier boiling. However, the reflectance attained is barely as good as the raw color of the better grades.

Sources of Color in Cotton. There are four sources of color in raw cotton:

1. Dirt, which includes trash, foreign matter, and other mechanically removable impurities.

2. Fiber geometry, which includes such physical effects as curl, twist, cross-sectional shape, etc.

3. Intrinsic color, which is the inherent, genetic color of the cotton. It is dependent on the variety, and is probably determined before the seed is planted.

4. Extrinsic color, which is developed in the cotton by its environment or other external agencies. It differs in dirt in that it cannot be removed mechanically.

The change in reflectance after removal of dirt is usually not great, but is pronounced on lower grades. Dirt may be a nuisance, but it is not the cause of grayness which persists after bleaching.

Experiments with solutions and films cast from cottons of various colors have convinced us that fiber geometry can be discounted as a source of unbleachable dull and gray color.

Experimenters have suggested several compounds as the source of the intrinsic color of cotton. Our studies have led us to the conclusion that a flavone, an orange-yellow pigment, is responsible. However, flavones are removed by bleaching, so the unbleachable color of cotton is not of genetic or intrinsic origin.

To study the extrinsic coloring of cotton, samples were obtained of unweathered white cotton and of the same cotton after 12 weeks of weathering. The weathered cotton was found to contain quantities of fungi, principally *Alternaria, Cladosporium,* and *Fusarium.*

Samples of the unweathered white cotton were impregnated with a water extract of the weathered cotton, and allowed to incubate for two weeks. Reflectance curves were then prepared for the three cottons — unweathered, weathered, and unweathered but incubated — both before and after bleaching.

This color analysis showed that the reflectance curves of the weathered cotton and the unweathered but incubated cotton were very close, and that bleaching did not remove the undesirable color. The unweathered white samples showed higher reflectances, whether bleached or unbleached.

This confirms the findings of previous investigators, that weathering is the chief cause of the unbleachable color found in cotton.

Bleaching of Raw Cotton. Processes for the bleaching of raw cotton are generally standardized for the different grades of cotton.

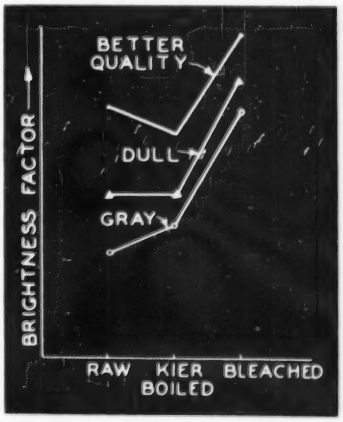
There has been much discussion in recent years regarding the importance of fineness in cotton spinning. Fineness is also important in bleaching since the finer the cotton the more difficult it is to secure uniformity of flow of processing solutions. Since any lot of cotton selected for bleaching will cover a range of fineness, it is essential to make a uniform blend of all bales in the lot by feeding equal amounts from each bale in rotation into the openers and cleaners.

Other important factors include selection so as to give uniformity in color, and foreign matter content in the lint cotton.

Properly selected and blended cotton should be first opened and cleaned. The degree of opening achieved should be such that hard lumps are well opened. Roping should be avoided as this leads to fiber breakage and nepping in later processing.

An efficient cleaning system is very desirable since, in general, foreign matter is much harder to boil and bleach than cotton. Cleaning efficiencies should be such that 40 to 60 per cent of all foreign material is removed since this, in general, assures removal of practically all the heavier and larger size particles.

The blended, opened, and cleaned cotton is next subjected to chemical processing. There are many variations in the type of



treatment which can be used, depending on the end product which is to be made. Boiling and bleaching may be carried out as separate operations or they may be combined into one operation. In general, a two-step process will result in the most complete processing since the bleach is not used effectively in a one-step process. Economics will in many cases decide whether a one- or two-step operation will be used.

Cotton Boiling. Since cotton can be boiled in a relatively short time at atmospheric pressure, a process for continuous boiling and bleaching of cotton would seem to be well worth consideration since it would effect rapid and uniform processing as well as efficient material handling.

Cotton can be boiled at temperatures from 200 F up to 250 F or higher, depending on conditions chosen and final product requirements. The higher temperatures tend to give somewhat more complete disintegration of foreign material, although this is dependent on chemical concentrations used.

The removal of natural wax during cotton boiling is not as complete as one might expect, since a rapidly absorbent cotton will be found to contain about ½ to 2/3 of the original wax.

Cotton Bleaching. Cotton is generally bleached with either hydrogen peroxide or sodium hypochlorite.

Hypochlorite bleaching is carried out after the boil is completed. It should be used at temperatures less than 120 F, generally 100 F or less, in order to prevent degradation of the cotton.

Hypochlorite is most effective in the pH range 9-11. A minimum bleaching time of 20-30 minutes is required. Concentration of hypochlorite used generally ranges from 0.1-0.3 per cent (1-3 gpl active chlorine).

Some processors prefer to bleach cotton on the acid side, or with a combination of acid and alkaline bleach. The acid bleach is relatively difficult to control since, in the first place, the bleach decomposes rapidly on the acid side. Secondly, if the neutral pH range is approached, i.e., pH 6.8, the oxidation potential of the bleach rises and there is a good possibility that the cotton will be attacked with the formation of oxycellulose.

On the other hand if the acid bleach is properly controlled, one may carry out the bleaching and souring in one operation.

Since hypochlorite is difficult to remove completely by washing, it is considered good practice to destroy all active chlorine with an antichlor such as sulphur dioxide or sodium sulphite.

Souring and Finishing. Cotton is usually soured for demineralizing purposes.

Cotton normally contains small quantities of minerals such as iron, calcium, magnesium, and aluminum; and readily picks up ions such as calcium, magnesium, and sodium from process water.

The most common souring agent is sulphuric acid. However, if large amounts of calcium are present (from hard water), it may be necessary to use acetic acid as a souring agent to prevent precipitation of insoluble calcium sulfate.

If the bleached cotton is to be picked and carded, the surface properties of the cotton fibers must be such as to give relatively low inter-fiber friction.

There are numerous finishing agents, each of which may be used in its proper place. A common finish is achieved by using soap. The cotton is washed with a dilute soap solution after bleaching and prior to souring. The acid in the sour precipitates the fatty acid on the fibers.

Other types of finish may be added during or after the souring operation.

Printing With Metallic Pigments

By Fred G. LaPiana
Stein, Hall & Co.

CONTROL of the technique of printing metallic pigments on textiles has now been achieved. Millions of yards of dress goods and draperies have so far been printed with these pigments, and have been readily absorbed by the market.

This does not mean that all the problems have been solved and all the headaches eliminated. Much more work has to be done to achieve smooth, economical running day in and day out with results to be regarded as entirely satisfactory.

Varnishes as Vehicles and Binders. Apart from the technical difficulties encountered in the printing by machine or screen of compositions containing a high percentage of metal finely divided powder, it was impossible until recent years to obtain solid-looking prints which were fast to washing and dry cleaning, free of tarnish and not subject to oxidation, unless oil varnishes and lacquers were used as the vehicles and binders.

The use of these varnishes yields satisfactory results for brilliance and permanency. Prints executed in this way will stand severe soaping if the temperature is not too high; in the cold they are unaffected by strong caustic soap, a property which allows them to be crimped for plisse effects. But these binders, even if plasticized, impart to the printed section, objectionable stiffness and a clammy, paint-like feel.

Furthermore, the handling of these varnishes in present day color shops, and their application by roller or screen printing, requires continuous and painstaking care. Special engraving and special screens are required, and solvents have to be used for cleaning; backgreys and table covers impregnated with these varnishes are almost impossible to clean and reuse.

At first sight, it would appear that metallic powders could be treated like pigment colors and printed in a like manner, using the same water-in-oil or oil-in-water

emulsion. However, these types of vehicle do not yield satisfactory results. The prints lack the body and solidity so characteristic of the gold and silver woven and embroidered effects, which first suggested the idea of applying metallic powders by printing.

If the heavy metallic powders are incorporated in a vehicle of low viscosity and specific gravity, they will settle on the bottom of the container, agglomerate in the color boxes, stick in the engraving; and, if screen printed, will fill up and block the spaces between the threads through which the printing composition is squeezed on the fabric.

Synthetic Latexes as Vehicles and Binders. In printing the usual high-colored organic pigments, to obtain full color body and shade solidity, ordinarily only a small amount of pigment is necessary, usually not more than 5 per cent on the total printing composition.

In contrast, when printing metallics it is necessary to use a much higher content of metallic powder to obtain solid looking prints. A minimum of 20 to 30 per cent on the bulk of the printing composition is required. It follows that to bind that much inert material onto the fibers, it is necessary to use also a relatively high percentage of binding and film forming agent.

The present synthetic latexes, especially those of the vinyl styrene and acrylic polymers in properly balanced, plasticized and thickened mixtures, have been found to be the most satisfactory for the purpose.

These printing compositions, carrying from 20 to 30 per cent of metallic powder, will run without much trouble in the roller printing machine if the engraving is properly adjusted, and will perform satisfactorily on the screen tables.

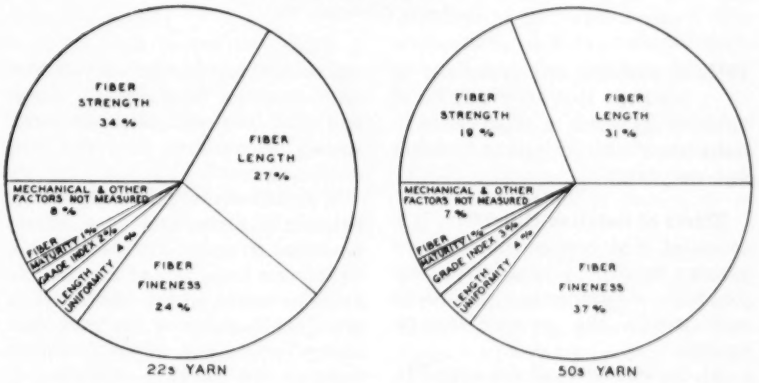
It is opportune here to note that one of the main causes of the earlier failures in printing metallics by roller machine, was unsuitable engraving. The ordinary engraving consists of a series of corrugations or furrows, which, although essential for the printing of starch and gum pastes, are altogether inadequate for printing metallic powders.

The metal is not only apt to stick and fill up the furrows and corrugations of the engraving, but even when a brush furnisher is used to keep the furrows clear

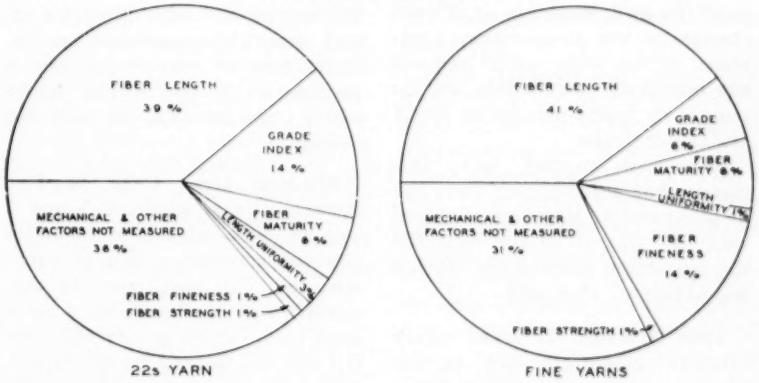
What Cotton Fiber Properties Affect Yarn Quality?

By John W. Wright
U. S. Department of Agriculture

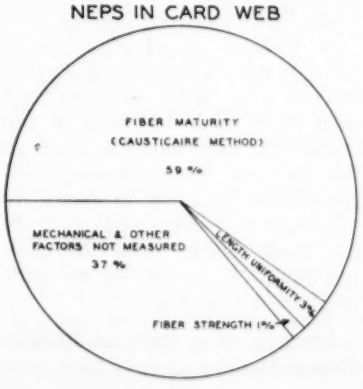
YARN STRENGTH


FIBER STRENGTH 34 %
FIBER LENGTH 27 %
MECHANICAL & OTHER FACTORS NOT MEASURED 8 %
FIBER MATURITY 1%
GRADE INDEX 2 %
LENGTH UNIFORMITY 4 %
FIBER FINENESS 24 %
22s YARN
FIBER STRENGTH 19 %
FIBER LENGTH 31 %
MECHANICAL & OTHER FACTORS NOT MEASURED 7 %
FIBER MATURITY 1%
GRADE INDEX 3 %
LENGTH UNIFORMITY 4 %
FIBER FINENESS 37 %
50s YARN

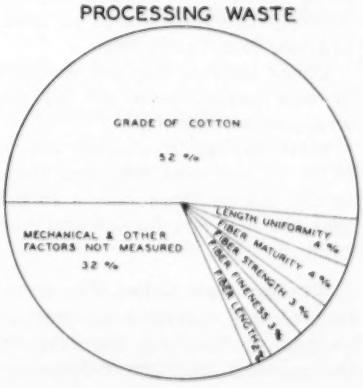
YARN APPEARANCE



NEPS IN CARD WEB



PROCESSING WASTE


GRADE OF COTTON 52 %
MECHANICAL & OTHER FACTORS NOT MEASURED 32 %
LENGTH UNIFORMITY 4 %
FIBER MATURITY 4 %
FIBER STRENGTH 3 %
FIBER FINENESS 3 %
FIBER LENGTH 2 %

of deposit, the amount of color transferred to the cloth is insufficient to give a solid effect.

The engraving most satisfactory for metallic printing is deep and smooth, without any furrows or lines whatsoever. From such deep and smooth engraving a heavy charge of color is transferred to the cloth and with a brush furnisher no difficulty is experienced in printing compositions containing as much as 25 to 30 per cent gold or silver powder.

Watch These Points in Processing Continuous Filament Viscose Yarns

By George Marshall
Courtaulds (Canada), Ltd.

THESE pointers are presented in the hope that they will be of value to all levels of supervision in mills handling continuous filament viscose yarn.

Effect of Relative Humidity. It is essential that continuous filament viscose yarn be processed in reasonable atmospheric conditions and within the proper tension ranges.

At, for example, 65 per cent RH, there is a practical tension range available for any process. However, once the RH rises above this to 80 per cent, there is a significant change in the stress-strain properties of the yarn, which reduces the maximum permissible tension from 0.35 grams per denier to 0.1 grams per denier.

Expressed another way, this means that a 150-denier yarn can be tensioned at 51 grams at 65 per cent RH; but at 80 per cent RH the maximum permissible tension would be only 15 grams.

Yarn Storage. In areas where sub-zero conditions are experienced in winter, and yarn is transported in such conditions, cake cases should be opened at least 24 hours before they are to be used, to allow them to condition.

Cones, because they are wrapped in wax paper, need not be unwrapped until needed.

Ideal storage conditions are at 50 to 55 per cent RH, and there should not be more than a 10 per cent rise between storage and grey cloth.

Winding from Cakes. The essentials of this operation are correct method of handling the cake by the operator, the right distance between the top of the cake-holder unit and the first pigtail guide, and that the pigtail guide itself should be centered over the cake holder unit.

With 300-denier and over, a large balloon is made and care should be taken to avoid interference between one balloon and another. In extreme cases where the spindles are close together it has been necessary to stagger the cake-holder units on the package platform.

We have found that a 16-inch diameter, 1-inch deep cap runs best on deniers up to 150. Over 150 denier, a 7-inch diameter, 2-inch deep cap gives good results.

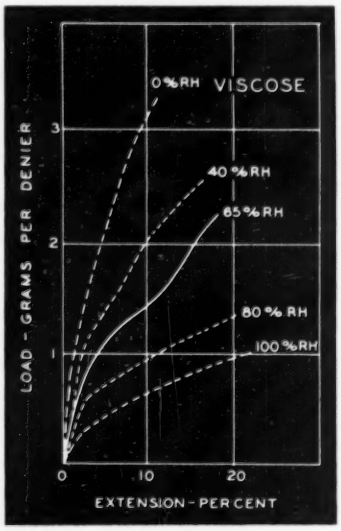
The type of insert found best is cardboard for up to 150 denier and a phenolite type for over 150 denier.

Winding from Cake to Dye Package. Basic winds of 2 and 3 and an open wind-gain (distance between succeeding laps of yarn) are used. This eliminates the diamond effect produced by a close wind-gain, which would not permit uniform flow of the dye liquor.

Minimum tensions must be used, and in some cases the yarn is not tensioned except by the control guides and speed of take-up.

A knitted stockinette, placed through the 1½-inch diameter perforated tube after cheesing and then fitted over the ends of the cheese, has been found to preserve the package during dyeing and subsequent handling. It is also of value when warping directly from the dyed cheese, since the back end can be kept covering the yarn to prevent trapping.

Winding from Cake to Braider Cheese. Because cheeses for braiding stand vertically on the spindle, it is necessary that they be tightly wound to prevent the yarn from falling. The use of high tensions calls for maximum care in such machine settings as that of the traverse guide on the Universal No. 50. The guide should not be in contact with the yarn.



EFFECT of RH% on the stress/strain relations.

Lubricated yarns are a "must" for braiding.

Quilling. There are four points to consider in quilling:

1. Relative humidity.
2. Nature of the supply package.
3. Type and amount of tension, and yarn path.
4. Spindle speed and yarn speed.

There is one point on relative humidity to be added to what was said earlier. With a rise in relative humidity, the yarn will stretch a greater amount with a given tension and also a higher tension reading will be obtained. What had been a safe maximum tension at 55 per cent RH is no longer safe at 65 per cent RH. It is clear that a relative humidity of 55 per cent will provide a wider range of tensions

to be used for various deniers.

Where cones are used as supply packages, the chief requirement is for a base plate having a well in it to take the cone tube. It is usual to cover the base plate with lamb's wool or felt to seat the yarn on the cone properly and also to avoid yarn falling down and trapping underneath the cone.

Strict control over the known yarn tensions, using 0.3 grams per denier as the standard, and a constant watch on the condition of yarn guides will pay off handsomely in better fabric.

It has been found that systematic channeling to the looms of quills made from specific parts of the cake will minimize the small differences between the inside and outside of the cake.

The procedure to be followed is to take the quills made from a given cake in certain groups. For instance, if we get 24 quills from a cake of 150 den., then the first 8 would go to loom A, the second 8 to loom B, and the balance to loom C, and the looms would continue to be supplied with filling made from the same part of the cake.

The mechanics of the actual operation is determined by the make of quiller. It can be done on all makes of quilling machines and can be worked out for any mill.

Warp Sizing. Viscose yarn stretches easily when wet. This causes us to run our drying cylinders so that their peripheral speed is about 4 per cent faster than that of the squeeze rolls, otherwise the ends would roll.

This means that the tension we put on the section beams is utimately borne by wet yarn in the size box, and should therefore be kept to a minimum. Of equal importance is the need for uniformity of section beam tension.

Everybody knows that all the back beams in a creel should be tensioned uniformily. Various methods have been devised for checking this, but the simplest we have yet seen is that of drawing a line on the warp sheet at the input roller at the back of the machine, and then running the sizing machine until the mark is at the split rods at the front of the machine. If the mark on a particular sheet of yarn is behind the rest then the tension on that yarn is greater and some adjustment is called for to bring it into line.

In the interests of productivity there is an understandable urge to run the machine as fast as possible and also get as much yarn on a loom beam as possible. There are limits as to how far you may go in these directions, for the yarn should be dry (that is having 8 to 10 per cent moisture) as it goes on the loom beam, even if it means reducing speed.

If the yarn is not dry and it is then subjected to high tension between the calender rolls and the loom beam, then strained yarn will result which will cause warp stripes in the finished cloth. It should always be possible to see the ends traversing slightly as the yarn is wound onto the beam.

Weaving. On modern looms, where yarn surfaces have been provided which minimize the danger of yarn damage, the number of ends down per loom/hour is very low. However, it has been found on C & K S-6 looms that by extending the whip-roll brackets so that the whip roll is then positioned on the outside of the beam flanges that a substantial reduction in end breakage is obtained. This move allows the drop wires to be put farther back, yet at the same time increases the actual distance between the whip roll and the drop wires. This allows the warp ends to straighten out before entering the drop wires.

With spun yarns, cover is obtained by shedding early and by raising the whip roll to get a slack top shed. This practice does not hold true for continuous filament yarns. Good cover can only be obtained with a pliable warp yarn. An oversized warp will not give good cover; on the contrary, the fabric will be lean and bare.

Some time ago in an attempt to obtain cover with an oversized warp, we changed the reed from a 31/3 ends per dent to a 46/2 per dent without materially affecting the appearance of the cloth.

Reppiness or overbeaten effect is most frequently the result of a stiff or oversized warp. This defect, which is most noticeable in plain weaves where the ends interlace each pick, is caused by the ends crimping more than usual and thus reflecting the light differently. The cloth will also feel rough to the touch.

Uneven fabric can give a lot of trouble before the actual cause is pinned down. It is of great assistance, however, if it can be determined whether the unevenness is the result of variable pick spacing or a variation in yarn size. We have found the use of parallel line gratings to be invaluable in this connection, as it is a simple matter to determine whether it is pick spacing or not.

If there is a variation of pick then a study of any periodicity should indicate whether the let-off or the take-up motion is at fault.

Before leaving the subject of take-up rollers we would mention that synthetic rubber provides a covering which does not become tacky if brought in contact with oil.

Warp streaks are defects which would require a paper on that subject alone to cover fully. As our subject is "yarn processing" we will confine our remarks to grey streakiness.

Warp streakiness in grey cloth is normally the result of differences in end spacing or tension. Variations in end spacing can be either directly caused by a faulty-reed (line gratings are also useful here) or indirectly caused by unequal size applications.

The latter is more commonly the case and may be explained in this way. If a warp is oversized but is uniformly sized across the warp sheet, then the cloth will appear uniformly reedy. If, on the other hand, the warp is not uniformly sized across the warp sheet, then groups of ends will form reedy stripes while other groups of ends with less size on will cause a well covered stripe.

The care of reeds imposes an obvious obligation on the weave room to check new reeds and to take care of existing ones, for a damaged reed can spoil a lot of fabric.

Tension stripes seen at the loom usually result from grooves in the loom beam warp. Depending on the severity of the groove and the

type of weave, these stripes do not always show up in the finished fabric.

Shiners have already been a subject in this paper for overstrained yarn makes shiners. During weaving, tight picks can be made which have the same appearance in grey cloth that shiners have in finished cloth. Tight picks are made at the loom when a pick or successive picks are woven in at a higher than normal tension.

Tight picks may vary in length as a result of a momentary increase in tension such as results when unwinding the yarn over a badly made bunch, or a knot in the traverse of the quill or due to a faulty transfer.

Bunches should be flat and close to the butt of the bobbin so that the yarn does not get behind it, while knots made in quilling should always be put on the shoulder of the quill.

When Do Resins Cause Degradation?

By Hector C. Borghetty
Rohm & Haas Co.

THERMOSETTING resins are used in large quantities on rayon and rayon-acetate fabrics to give them high wet strength and good abrasion resistance during washing, together witn shrinkage control and wrinkle resistance. These properties more than offset the decrease in dry abrasion resistance which occurs.

Many fabrics still appear on the market showing excessive decrease in the apparent physical properties of the fiber, particularly in the abrasion resistance of rayon and the tear strength of cotton.

This paper discusses some of the causes of this degradation.

Overloading of the Resin. A few years ago, poor abrasion resistance was a much-reported difficulty with viscose gabardine fabrics used for children's play suits. This condition was traced to excessive resin content.

Table 1 shows the effect of varying amounts of resin applied to a viscose fabric, which was dried, cured 5 minutes at 300 F, rinsed, and dried. A monomeric urea-formaldehyde resin was used as the main stabilizing and crushproofing agent. A syrup resin was included in some of the formulations.

From the table, it is obvious that the addition of the syrup condensate not only does not adversely affect abrasion resistance, but is actually beneficial.

Also from the table, it is evident that loading of resin beyond the optimum 10 per cent fixed resin content is extremely harmful.

TABLE 1
EFFECT OF RESIN CONTENT ON ABRASION RESISTANCE

Sample No.	Treatment (% Solids)	Resin Analysis			TBL Abrasion Cycles
		Total	Fixed	% Retention	
1		—	—	—	9,100
2	10% Monomeric + 0.4% Cat. D	6.7	6.1	91	2,800
3	16% Monomeric + 0.6% Cat. D	11.3	10.2	91	1,300
4	20% Monomeric + 0.8% Cat. D	13.5	12.3	91	1,200
5	24% Monomeric + 0.9% Cat. D	15.9	14.9	94	800
6	2% Syrup Resin + 0.1% Cat. A	2.0	1.8	90	10,500
7	4% Syrup Resin + 0.1% Cat. A	3.9	3.5	90	11,700
8	10% Monomeric + 2% Syrup Resin + 0.1% Cat. A	8.1	6.8	84	2,600
9	16% Monomeric + 2% Syrup Resin + 0.1% Cat. A	12.1	10.0	83	1,600

Distribution of the Resin. Poor distribution of the resin caused by improper preparation of the fabric, excessive pick-up, or by poor drying, are factors, but not the only ones, that lead to uneven results in resin finishing.

Conditions such as twist in the yarns, weave, tension on the fabric, length and width during drying, and the pressure on the pad rolls are extremely important, but have been worked out satisfactorily by most finishers of thermosetting resin-treated fabrics.

Catalysts and Curing. The relationship between catalysts and proper curing is a function of the speed of cure of the resin, the type of catalyst used, the length of curing, and the temperature.

It is often reported that even buffered catalysts give harmful effects when used in excess. The majority of these difficulties are traced to the fact that if a resin is used in excess and a catalyst is used at too low a concentration the resultant fabric will give certain values of crush-proofing and stabilization with the corresponding decrease in abrasion resistance. A change to a stronger catalyst gives greater loss in physical properties simply by being more efficient in curing.

If 15 per cent of resin solids are applied, for instance, in the presence of a weak catalyst to give 70 per cent fixation, a change of catalyst to give a resin fixation of 90 per cent would result in a greater loss in physical properties. The catalyst has not harmed the fiber but has simply allowed the excess amount of resin to react. The same happens when a short cure or too low temperature cure are modified to give increased resin fixation.

The amine-type catalysts, Catalyst AC [Monsanto] and Catalyst G-8 [Rohm & Haas], are recommended. Strongly acid catalysts can cause tendering.

After-Washing. The importance of after-washing all fabrics cannot be overemphasized. Although many mills continue to economize

by eliminating the after-wash, the drawbacks which are encountered from time to time clearly indicate the difficulties that can arise.

The reason that many fabrics do not give trouble lies in the fact that garments are often either dry cleaned or washed shortly after they are used the first time and this eliminates the source of odor.

In all due fairness to the consumer, fabrics should not leave the plant without being afterwashed. This wash eliminates the excess catalyst, the uncured resin, reduces the surface resin, reduces the cross-link monomeric resin which has adhered to the surface of the fabric, eliminates flaking and dusting, and, furthermore, insures against the development of unpleasant amine odors.

The primary methyl amine formed during the cure is linked in the form of its acid salt which must be broken with an alkaline after-wash to free the amine carried away by a thorough rinse.

Characteristics of Wool Fabrics

By Herman Bogaty, Lyman Fourt, and Milton Harris
Harris Research Laboratories

IT IS our purpose here to discuss a few of the wool-like characteristics of fabric structures which stem from the unique properties of the wool fiber. However, it is to be emphasized that some of the effects observed result from certain structural arrangements of the fibers in the cloth, irrespective of fiber type.

Fulling. Felting is a consequence of the mechanical properties of the wool fiber, in particular its large elastic recovery range, and is directly related to the wet frictional properties of the fiber.

Fulling is also influenced by blending. Data in Table 1 illustrate that the effects produced in blended fabrics depend on the nature of the non-wool component; with hydrophobic fibers the feltability decreases as the wool content decreases.

Fibers such as viscose and Vicara do not appear to hinder felting, and may sometimes enhance it by providing a soft bearing surface for neighboring wool fibers.

Fulling produces effects in the fabric other than shrinkage, which also determine fabric properties; for example, random fiber arrangement is responsible for good loft, thickness and hence warmth, and good cover.

Fabric Properties Dependent on Wool. Fabrics of similar construction become thicker as wool content increases, and correspondingly become warmer.

Change in thickness on compression is also directly related to wool content; wool blankets, for example, show a greater range of compression and greater compressional resilience than do blends.

Another characteristic of wool fabrics, related to their hairy surfaces and the staple nature of the fiber, is that of warmth to the touch.

For most fabrics, the specific thermal conductivity, and hence their warmth, decreases as pressure on the fabric increases. This, however, is not true for wool fabrics, whose specific thermal conductivity is not changed as the pressure on the fabric increases. This is attributed to the initial random arrangement of the wool fibers, and to their alignment in the plane of the fabric under pressure

Fabrics which are more wool-like may be achievable by seeking to produce more random structures from non-wool fibers. Examples of approaches to this end are improvements in crimp effectiveness, and heat-shrinking techniques. Other areas where experimentation would be useful are twist, fiber denier and staple length, and napping.

TABLE 1

FELTING SHRINKAGE OF BLENDS

Approximate Wool Content %	Fabric Shrinkage, %			
	Fabric 1 (Nylon)	Fabric 2 (Acrilan)	Fabric 3 (Viscose)	Fabric 4 (Vicara)
100	22	5.5	22	22
75	19	4.6	29	24
50	13	1.2	31	22
30	9	—	—	—

Effect of Outdoor Exposure on Fibers

By M. L. Staples and C. J. Brown
Ontario Research Foundation

A STUDY has been made of the photochemical degradation of fabrics made from regular and high strength viscose rayons and of the effect of certain compounds in preventing fiber damage during weathering.

It has been found that lead chromate, aluminum hydroxide, urea-formaldehyde and Velan finishes will protect viscose rayon against the action of sunlight.

Certain treatments such as acid-formaldehyde and Avcoset that are normally applied as stabilizing finishes, will not inhibit the actinic degradation of viscose rayon.

High strength viscose may possess slightly better resistance to photochemical action than regular viscose but the difference is not striking.

Cotton was found to be approximately equal to high strength viscose and a little more resistant than regular bright viscose.

The Orlon duck fabric, used in the investigation, possessed the best resistance to sunlight attack. The Orlon marquisette, however,

AMERICAN MONORAIL LOOM CLEANER

prevents lint accumulation on looms and weave room ceilings

The first experimental loom cleaner was placed in operation by American MonoRail in 1948. A similar model was shown at the Southern Textile Exposition, Greenville, S. C., in 1949 and earlier that year was the subject of editorial mention in the textile magazines.

Since that time, much data has been gathered covering the application of loom cleaners under widely varying conditions. Not all experiments were successful. American MonoRail engineers are, therefore, fully qualified to make accurate recommendations based on actual experience.

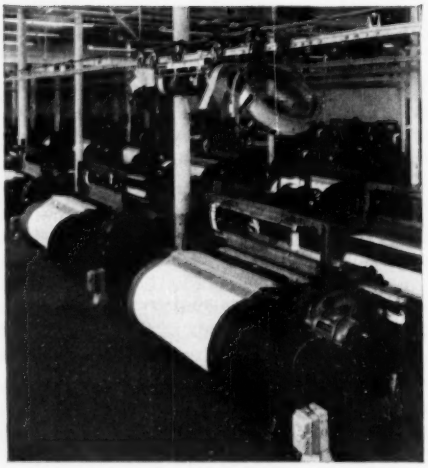
Here are a few results obtained under the conditions recorded—

Cost of cleaner installation reclaimed in 1.7 years by reduction of manual cleaning in a weave room operating at 77% humidity on synthetic yarn making fine goods.

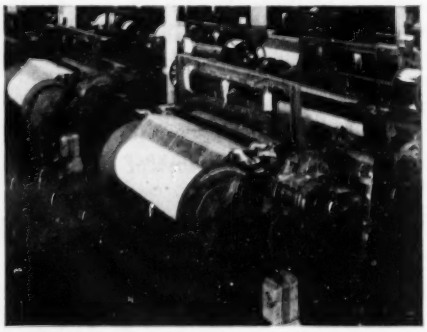
57% reduction of cleaning labor alone in weave room running over 1000 looms—90% humidity—light sizing—making gauze.

In a mill running on broadcloth, loom and ceiling cleaning over 500 looms showed an average of 1% upgrading of cloth. Cleaning labor savings pay for installation every two years.

Before you buy, make true mechanical evaluation of this equipment. Let an American MonoRail engineer offer recommendations at no obligation.



with automatic loom and ceiling cleaning 57% of manual cleaning is eliminated. Ceilings are blown-down once a month instead of every week.



without automatic cleaning lint piles up quickly. Above picture shows accumulation in 16-hour operation.

AMERICAN MONORAIL COMPANY

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Dynel Clothing Protects from Chemicals

Dynel work clothing has been adopted by International Business Machines electroplating department to provide increased protection from acids and chemicals used in plating business machine parts. The operator shown in the photo is using the chemical - resistant clothing, which was manufactured by Mine Safety Appliances Company, Pittsburgh, Pa., as he inspects plating equipment at IBM's Poughkeepsie, N. Y., plant.

In addition to the chemical resistance of the fabric, its warmth and water resistance give excellent protection against disagreeable weather. Other qualities of the new clothing include resistance to wear, moths, and shrinkage, and the fact that it will not support combustion, yet it launders readily and retains a neat appearance.

Two Ways to Estimate Skein Strength of Carded Yarns

The relationship between fiber properties of various kinds of cotton and the strength of the yarns made from them is the subject of continuing studies by the U. S. Department of Agriculture. The information derived from these studies is believed to be helpful to the cotton trade and textile industry in choosing those cottons best suited to the manufacture of specific products. Seventeen publications have been issued reporting on the findings in earlier work of this nature.

The most recently issued report* summarizes and compares correlation results that were obtained with skein strength of 22s carded yarn and with count-strength product of all yarn sizes spun from each cotton, representing ten series of cottons and identified with eight consecutive crop years, 1945-1952.

Twenty multiple correlation analyses are included in this study, representing a total of 2,298 American upland cottons and 7,007 lots of yarn, ranging in size from 14s to 60s.

Six elements of raw-cotton quality were used as independent variables in the analyses: namely, grade index, upper half mean length, length uniformity ratio, fiber fineness (weight per inch), fiber strength, and percentage of mature fibers (standard method).

The relative importance of the respective cotton-quality elements to strength of 22s yarn and to count-strength product of all yarn sizes, as determined by beta coefficients obtained from multiple correlation analyses, varied more or less for the ten series of cottons and eight crop years. Upper half mean length, fiber strength, and fiber fineness, however, generally proved to be the most important cotton-quality factors to 22s yarn strength and count-strength product. In most cases, grade index, length uniformity ratio, and percentage of mature fibers (standard method) had relatively small or negligible effects on yarn strength and count-strength product.

The direction of the contribution of the respective cotton-quality factors to strength of 22s yarn and count-strength product of all yarn sizes, as determined by the sign identified with each beta coefficient obtained from multiple correlation analyses, generally was consistent for the ten series of cottons and eight crop years, and was what would be expected. The signs fluctuated more for percentage of mature fibers than for any other cotton-quality factor considered, but this was not surprising because of the comparatively small beta values generally obtained for fiber maturity.

The regression equations, showing the mathematical evaluations of the multiple relationships occurring between the variables included in the respective analyses, varied considerably for an individual size of yarn representing different series of cottons or crop years. They also varied appreciably for different yarn sizes processed from a particular series of cottons or crop year.

Two recommended equations are presented for estimating the skein strength of various sizes of carded yarn over a wide range of yarn sizes by the count-strength-product method — one including six cotton-quality factors and the other, the three most important quality factors.

An illustration of the calculations necessary for estimating skein strength of any size of yarn is shown for a count-strength-product equation.

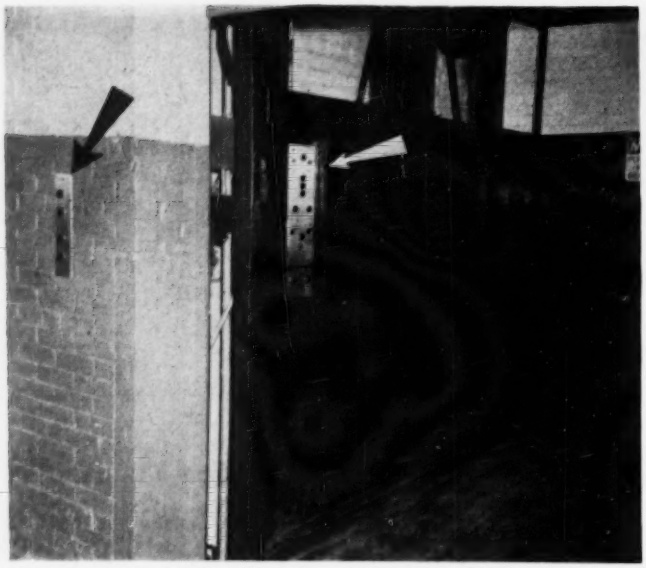
*"Comparison of the Relations of Six Factors of Raw Cotton Quality to Skein Strength of Carded Yarns for Eight Crop Years, 1945-52" by Robert W. Webb, Cotton Technologist, U. S. D. A., May 1954.

underwent much degradation.

Dull viscose was damaged much faster than bright viscose, and dull nylon showed about the same resistance as delustered viscose.

All fabrics exposed in a city atmosphere were found to degrade much more rapidly than those which were exposed in the country.

Fabrics which were exposed without covering degraded most rapidly, those under polythene film ranked next, and the least damaged samples were those exposed under glass.



Elevator Changeover to Self-Service Soon Pays for Itself

Automatic push button elevator controls with self-leveling device installed in a South Carolina mill provide added convenience and safety in transporting materials and personnel at lower cost, according to management officials at this mill. As a direct result of the installation, three men were relieved of operating it.

To obtain elevator service, each individual merely presses the call button to bring the elevator to his floor level (see accompanying illustration). Upon entering the elevator, the appropriate button for the desired floor is pressed, and the automatic mechanism does the rest. Cost of the changeover will be amortized in 18 months.

Employees are pleased with the new elevator "service"; now there is no waiting, and there are no "excuses."

Tips for Dyeing and Finishing Orlon Knit Goods

Disperse and basic colors are used almost exclusively on "Orlon" knitwear, the former for pastels and the latter for the darker shades. These dyestuffs give very good all-around fastness for these end uses in a complete shade range. The colors level well, the methods are straightforward, and conventional paddle and rotary equipment can be employed without pressure and without the need for carriers except for the basic black.

Sweaters. Care should be exercised in handling sweaters of "Orlon" through the dye house to avoid a tendency toward distortion and wrinkling. Jersey stitch and full-fashioned sweaters should be knit from about 2/22 w.c. yarns with a tight stitch to provide body in the garment and to simplify handling and prevent this distortion during dyeing, finishing, and pressing.

Presetting is not required or desirable. The sweaters or fabric strips are packed in bags with enough freedom to move. The goods are first scoured in the paddle machine with: 1% "Duponol" RA, 1% Tetrasodium pyrophosphate, 180 F for 15 minutes and then dyed by the usual procedures. Following dyeing, the bath temperature should be reduced gradually by an overflow rinse as shock cooling may set in wrinkles.

The sweaters may be finished in the paddle machine, or, if greater softness and loft are desired, in a wash wheel. About 3% of such products as Ceranine HC or Quaker Chemical Company's softener for "Orlon" applied at 140 F for 15-30 minutes will yield a desirable hand.

The sweaters should be centrifuged for a maximum of two minutes to preclude undue wrinkling. They can then be dried fairly rapidly in a tumble drier at 180 F.

In pressing, bottom steam should be applied to shape the sweater and remove most of the wrinkles. The top buck should then be brought down very lightly and briefly. This reduced treatment does the job and if more pressure is exerted, glazing and loss of bulk may result.

Half-Hose. Half-hose are processed much as are sweaters, using disperse and basic colors and conventional equipment. Preboarding is not necessary, extraction should be light, and they may be dried on a boarder using external hot air at 200 F. Finish and compensation for the shrinkage of 5-10% can be based on small trials at the individual mill.

Fine Gauge Jersey. Modern equipment, such as that manufactured by Tubetex, is desirable for finishing fine gauge jersey of "Orlon" and "Orlon"-wool blends. Fulling appears to offer little or no advantage, and semi-decating should be either eliminated or done very lightly.

After dyeing, if a Tubetex dryer is available, the fabric should be run through the squeeze rolls, padded with the softener, and then dried under the usual conditions. A stack dryer can also be used, in which case the fabric should be centrifuged or vacuum extracted and immediately dried at a relatively low temperature, to insure even application of heat to the goods. Final finishing is preferably done on an overfeed machine with the steam shut off the calender rolls. This will stabilize the fabric at the desired standard width.

From paper "Mill Procedures for Dyeing and Finishing of 'Orlon' Acrylic Fiber" by Howard P. Brokaw, E. I. du Pont de Nemours & Co., Inc.

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- **shorter dyeing time**

The simplicity of the neutral dyeing method of application yielding level fast shades without the aid of a leveling agent now permits wool dyers to achieve results in quality which were not possible prior to the introduction of SUPRALANS.

Better tensile strength, preservation of fibre texture, equal exhaustion properties and uniformity of shade on various types of wool are assured factors which can be assumed with SUPRALANS.

A few minutes conversation with GDC technical and sales representatives will serve to convincingly explain the exceptional dyeing characteristics of SUPRALANS.

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Front row, left to right—Life-Line® "A", totally-enclosed, nonventilated motor; Life-Line loom motor; cotton card gearmotor. **Back row**—D-c braking control; loom motor starter; cotton card controller.

Six new Westinghouse products help you modernize in easy steps

Meet C. P. Walker, Manager of Textile Industry Sales. On the following three pages he introduces you to the men behind these important product developments. They'll show you how these new Westinghouse products broaden your opportunities for modernization or expansion.

Next page, how to boost weave-room efficiency →

YOU CAN BE **SURE**... IF IT'S

Westinghouse

Here's Steve Keller, Manager A-c Motor Section, showing how the new Life-Line loom motor design cuts operating costs in the weave room.

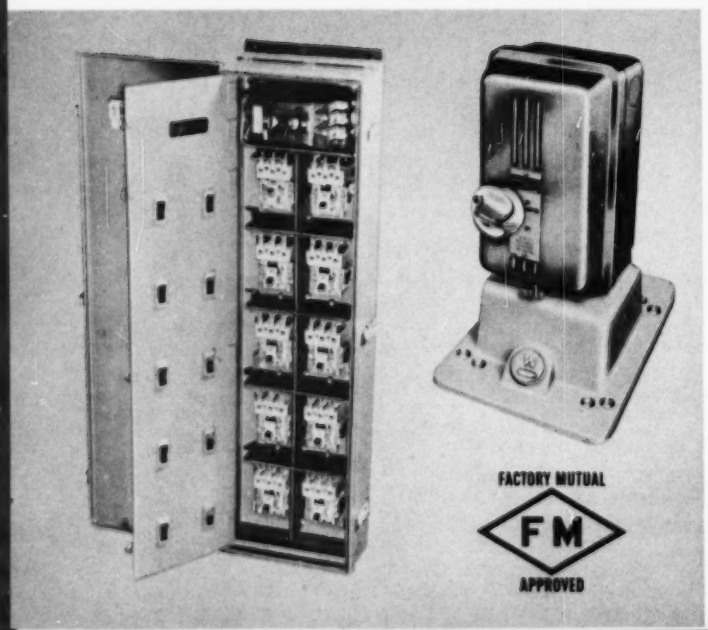
This rotor and flywheel design smooths loom performance

Modernization or expansion of weave-room equipment starts with improving drive efficiency. That's where the design of the new Life-Line loom motor gives you greatest return.

Due to a rotor design with flywheel effect, the Life-Line loom motor does not draw excessive power at peak torque. Power bills are lowered. The rotor design smooths out peak and valley torque requirements. In addition, the Life-Line loom motor provides overload capacity to break in new looms.

Sealed, pre-lubricated loom motor bearings need no attention

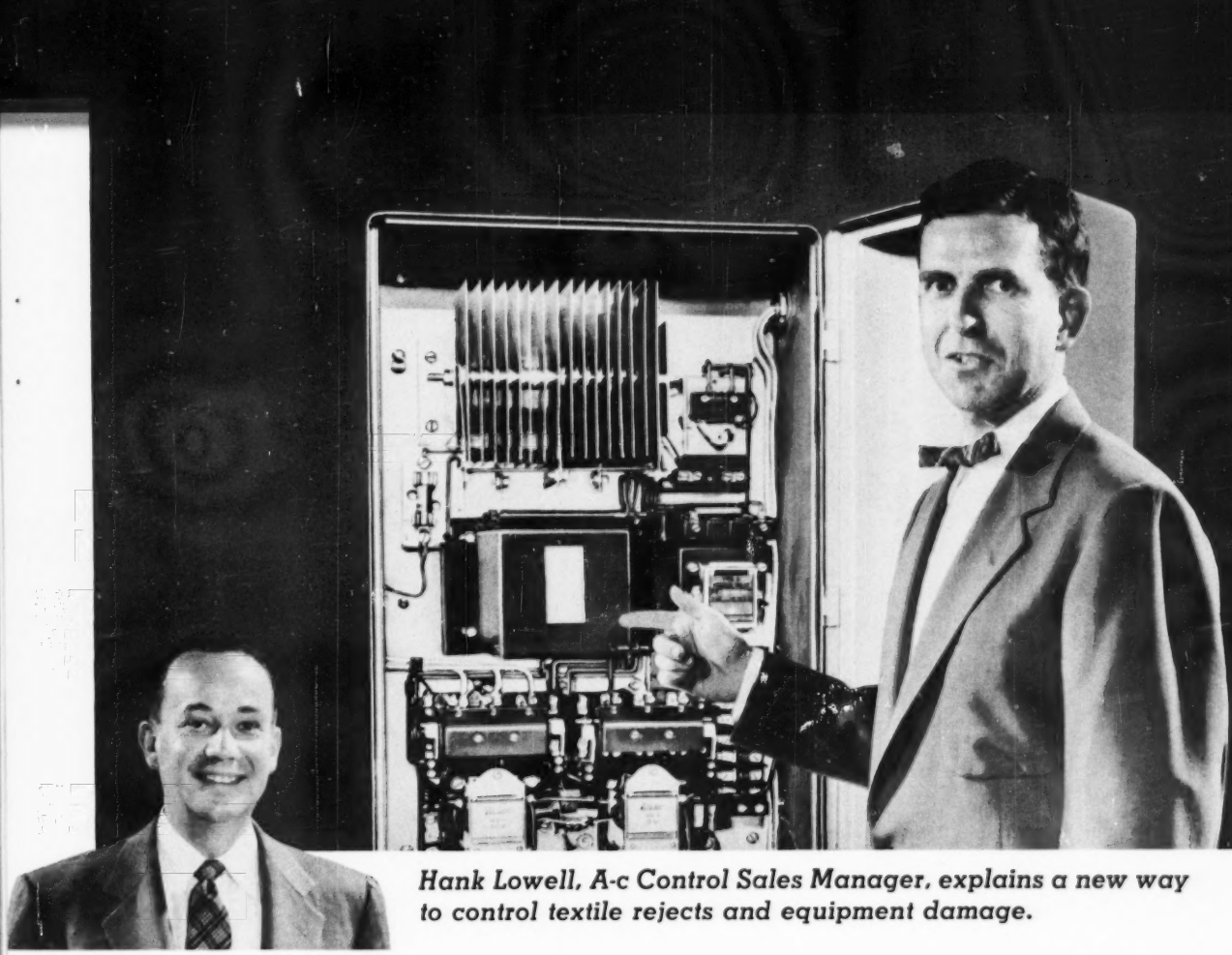
You can lick lubrication and maintenance costs as you modernize with Life-Line loom motors. The motor bearings are packed at the bearing manufacturer's plant with the right amount of a specially compounded grease. Then they're sealed for the life of the motor. The bearing itself is oversized, of heavy-duty construction for the higher load-carrying capacity. Outer face of rear bearing is clamped to bearing housing to cut shock loading from loom vibration.



Greater protection in lint-tight loom motor starter

Motor starters, according to insurance studies, cause 40% of all electrical fires in weave rooms. New Westinghouse lint-tight starter has a long-life, Neoprene gasket between cover and box for greater protection. Modernizing often allows for grouping motor starters, shown at left, to save space and inspection time.

YOU CAN BE **SURE**...IF IT'S

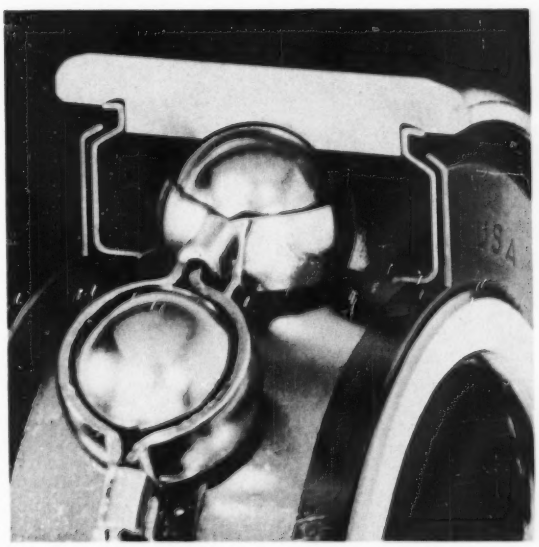


Hank Lowell, A-c Control Sales Manager, explains a new way to control textile rejects and equipment damage.

Pushbutton d-c braking gives you split-second protection

Take the case of a Pennsylvania mill using tricot knitting machines. The previous methods used to stop the equipment, if a fault occurred, were hard on machinery. An occasional failure turned good material into seconds.

This Westinghouse d-c braking controller was installed on a trial basis on one knitting machine. It applies direct current to the a-c squirrel-cage or wound-rotor drive motor. The result is smooth deceleration to a stop within one second. The motor won't rotate in the reverse direction after stopping. Result: The mill plans to incorporate this controller in a modernization schedule.



Positive bearing protection

Exclusive 4-way seal guards new Life-Line "A" bearing. *Two* protective seals on each side of bearing guarantee maximum protection. Inner seals form labyrinth joints; outer seals act as flingers.

Westinghouse

Mort Cooper, Gearing Sales Manager, points to the results of step-by-step modernization aided by the new Westinghouse cotton card drive.

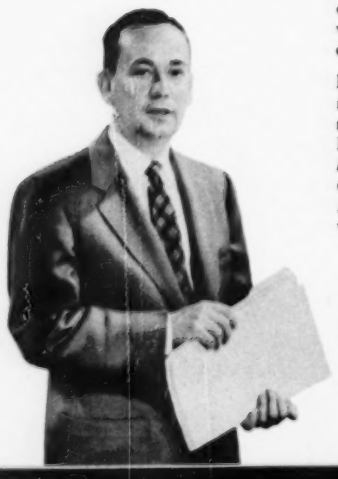
Shaft-mounted gear drive clears overhead belting

Mounted directly on each card cylinder shaft, new Westinghouse card drives make all overhead motors, lineshafts and belting unnecessary. Install them on one or a group of cards without disruption of entire cardroom operation. Individual mounting eliminates chance of many cards being idled due to failure of lineshaft, interconnecting belts, drive motor or motor starter.

Westinghouse card drives eliminate all lineshaft maintenance. There's no belting to replace, dress or shorten, no clutches to maintain, no overhead motors to clean and lubricate. These new card drives are totally enclosed for protection against lint.

All moving parts are enclosed in these compact drives. Personnel can move freely between cards without chance of injury. With overhead belting gone, the problems of static electricity are removed and lighting is more effective.

Westinghouse cotton card controllers, available with circuit breaker or fusible disconnect, assure continuous card operation at peak efficiency. They protect the drive and operating personnel. Effective sealing prevents entrance of lint or dust which might impair control performance. The reversing switch, used during grinding, is mounted inside the controller to avoid accidental reversal.



First step, if you're planning to modernize or expand, is an evaluation of electrical requirements. Use the experience of your local Westinghouse representative. He's familiar with a complete range of products and developments for textile drives and electrical distribution equipment.

He offers you help from Westinghouse consultation and application engineers, located in your area and acquainted with local problems. He brings service to your mill from the nearest of 38 Apparatus Repair Plants, 56 Field Engineering Offices, and 31 Renewal Parts Warehouses. Ask him for this product literature: *Cotton Card Gear Drives* (B-6375); *Life-Line "A" Motor* (B-6154-a); *Loom Motor Starter* (B-5256); *Westinghouse Motors & Control for the Textile Industry* (B-5422); *Westinghouse Equipment for Cotton & Rayon Mills* (B-4799); *Westinghouse Equipment for Woolen & Worsted Mills* (B-4798). Or write to Westinghouse Electric Corp., 3 Gateway Center, Box 868, Pittsburgh 30, Pa.

MP-3024

YOU CAN BE **SURE**... IF IT'S

Westinghouse

MORE THAN 250 mill men from four states filled Thach Auditorium, Auburn, Alabama, at the fall meeting of the Alabama Textile Operating Executives. Here **Charles L. Harris,** Pepperell (Ala.) Mfg. Co. makes a point during the weaving discussion.

Alabama mill men told how they

reduce slasher waste

Staff Report

MORE than 250 mill men from Alabama, Mississippi, Louisiana, and Georgia met at Thach Auditorium, Auburn, Ala., on September 25, for a discussion of slashing and weaving problems.

The basis for the discussion, sponsored by the Alabama Textile Operating Executives, was the replies by 12 mills, representing more than half a million spindles, to previously submitted questions.

The slashing and weaving discussions are summarized on the following pages of editorial matter.

Slashing

Pressure-Type Squeeze Rolls. No adverse comments were received from the 5 mills which reported using pressure-type squeeze rolls. **Mill J** listed the advantages of these rolls as greater ease of operation, more uniform pressure from side to side, and more uniform pick-up of size.

However, **Mill E,** after extensive tests, came to the conclusion that the only real advantage of pressure-type rolls is the ease of raising and lowering the rolls.

Most of the reporting mills have had no experience with pneumatic loading. One slasher at **Mill J** is so equipped, and is operating with 700 pounds pressure on the rolls. According to this mill, pneumatic loading makes for easier and quicker operation, and more uniform pressure.

Referring to pneumatic loading, **Mill E** says, "We feel that 600-pound rolls along with the correct combination of worsted and cotton yarns and a well balanced size mix applicable to the yarns to be dressed will give best results." This mill cautions that size content and penetration cannot be controlled by varying the weighting on the rolls. The important thing is still to have the correct ratio of softener, water, and starch, and correct cooking cycle.

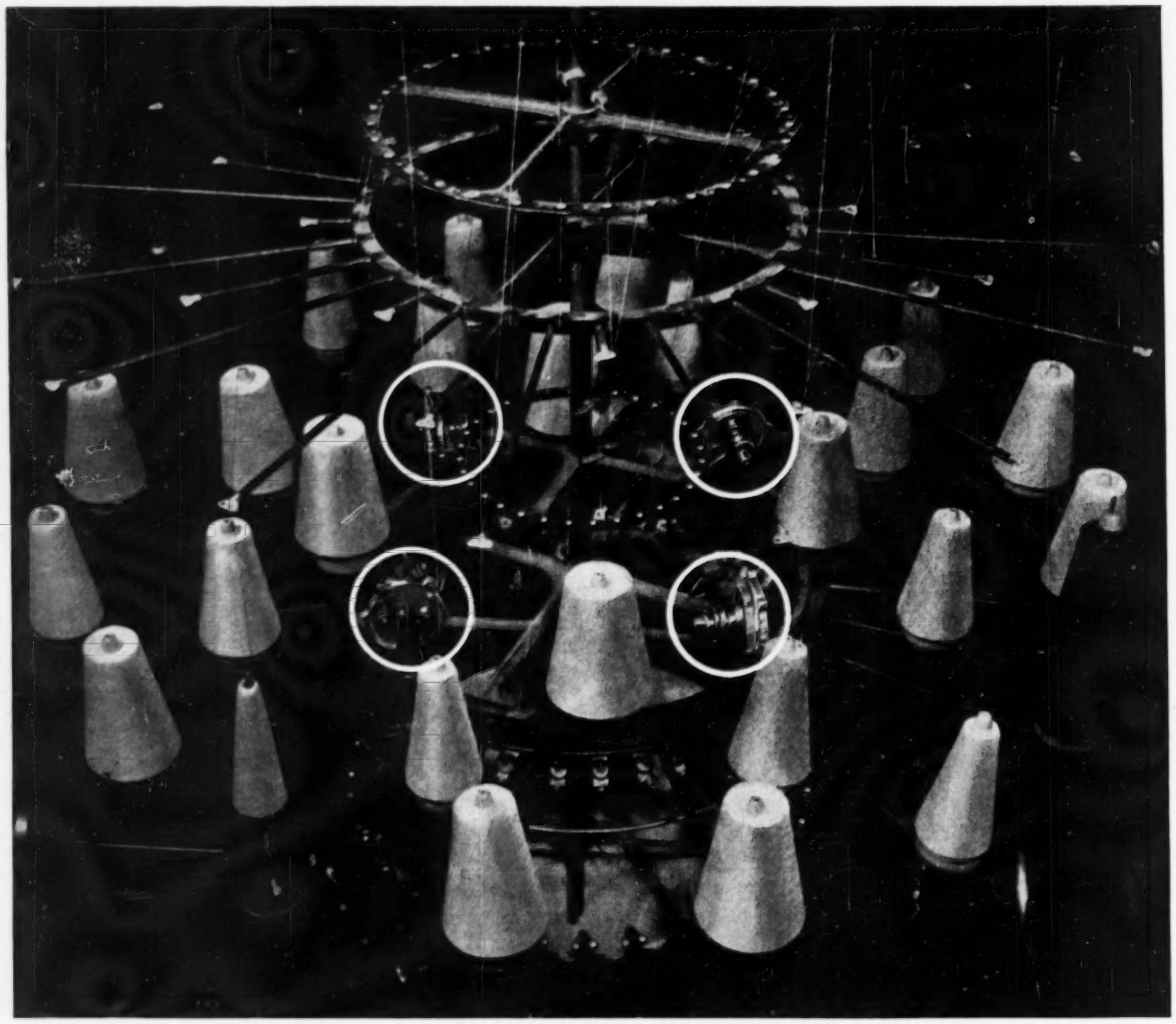
Mill H, after some experimentation, has settled on pressures of 40 psi on the finisher squeeze roll and 30 psi on the breaker roll.

Synthetic - Covered Squeeze Rolls. Judging from replies to a

They also discussed

- **Uniform size pick-up**
- **Weave room preventive maintenance**
- **Even filling tension**

SLASHING DISCUSSION was led by **W. T. Curry,** Cone Mills' Dwight Division, Alabama City.



How rubber yarn is tension-controlled at the Steven Knitting Mills

The Steven Knitting Mills, Inc., of 564 Broadway, New York City, are manufacturers of elastic cloth for outerwear, and they control tension of rubber yarns on their various types of circular knitters with Kidde Standard Tension Compensators. Each of the four rubber ends (the dark cones in the picture) feeds into a Kidde Standard Tension Compensator, where tension is controlled *surely* and *accurately*.

By using Kidde Standard Compensators as tensioning devices for the rubber ends, Steven Knitting Mills, Inc. report the following:

Fabric width is now consistent, puckers in the cloth due to tension variations in the elastic yarns have been eliminated, and the general appearance of the cloth has been greatly improved.

For tensioning rubber yarns, Kidde Standard Tension Compensators will work well with any type of latch needle machine or spring-beard needle machine. They'll help you turn out a better elastic fabric at *less* cost!

More than 500 leading textile mills have put Kidde Compensators to work solving their tension problems. For more information on how Kidde Compensators can help *you*, write Kidde today.

Kidde *The word 'Kidde' and the Kidde seal are trademarks of Walter Kidde & Company, Inc.*

Walter Kidde & Company, Inc.
1290 Main Street, Belleville 9, New Jersey

Slasher Waste in Mills of Alabama

Mill	Hard Waste %	Soft Waste %
A	1.0	0.75
B	0.44	0.54
C	0.70	0.27
D	0.40	0.44
E	0.30	0.24
G	1.5	0.4
H	0.07	0.30
I	1.0	0.50
J	0.70	0.60
K	0.06	0.55
L	0.83	0.33
—	0.1	0.4
—	0.53	0.40
Average	0.59	0.44

How One Mill Creels Slasher to Reduce Waste

At runout, when loose ends show up on first section beam, stop slasher.

Drop size mixture from box. Raise immersion roller and squeeze rolls and rinse entire box and rolls with water.

Fill box with water and turn steam on and bring to a boil while other duties are being performed. Move yarn forward a few feet after rinsing to clean off squeeze rolls.

Cut out set.

Pull off any remaining soft yarn on section beams.

Load new set in creel.

With one operator on either side of creel, pull over new set.

When pullover reaches fourth section beam from back, lay down ball of pullover yarn and insert lease string between two back beams.

Then pull over beam by beam-inserting lease strings between each two sheets of yarn as first string inserted reaches that point.

Tie on new set. When knots are tied, lease strings are on fourth beam from box.

Move yarn forward so knots are midway between box and large cylinder. (Be sure ends are parallel, if not, move slasher forward until they are.)

Put on tape to be used in counting-in set (about three feet ahead of strings).

Bring tape over to calender rolls, winding sized yarn onto full beam.

When end of sized yarn arrives at calender rolls, doff full beam.

Bring tape forward of calender rolls and comb and count-in set.

Drop boiling water from size box and allow to drain completely before size is to be drawn into box.

Insert lease rods and draw size into box.

Start up slasher and bring sized yarn over to loom beam. Selvage ends may be put in and straightened out while sized yarn is coming over cylinders.

question asking for details of experience with synthetic-covered squeeze rolls, the mills of Alabama view these rolls with mixed feelings. At **Mill J** one slasher is equipped with synthetic covering on the finisher roll without pneumatic loading, and is producing satisfactory results. On the other hand, **Mill B** unqualifiedly states that these rolls are unsatisfactory. The rolls which they tried did not squeeze evenly, and were difficult to clean.

Mill C found synthetic covering unsatisfactory on the finishing roll, but reports that it does a good job on the back roll. At **Mill H,** shedding was excessive with low pressures, but the mill got good results with synthetic-covered rolls at higher loading pressures.

Buffing cycles for synthetic-covered rolls vary from 2 months to 4½ years. Different materials, different densities, and wide variation in loading account for the lack of uniformity in this practice, and make comparisons among mills of little value. The most that can be said is that the buffing cycle should be based on regular checks of the size content of the yarn; rolls should be buffed when tests show that size content is lower than standard.

Blanket-Covered versus Yarn-Wound Squeeze Rolls. Seven mills prefer yarn-wound to blanket-covered squeeze rolls.

Mill G listed the advantages of yarn-wound rolls as:

1. Lower cost.
2. No stopping to change blankets.
3. No seasoning of blankets.
4. No handling of hot blankets.
5. No lap marks.
6. No trimming of blankets.
7. Higher speeds possible.

Other mills gave increased uniformity of size content and the fact that size content can be controlled by varying the amount of wool and cotton yarn on the roll as additional reasons for preferring yarn-wound rolls.

One mill reported increasing production at the drawing-in machines by 7000 ends per hour after changing from blanket-covered to yarn-wound rolls. This mill uses 2 ends of 3-ply wool and 2 ends of 9s cotton, on a burlap base.

Waste at the Slasher. Percentages of hard and of soft waste in slashing reported by Alabama mills are given in the accompanying table. These figures do not necessarily give an accurate comparison among the mills, because of differences in computing waste percentages. For example, one mill includes in hard waste the waste from tying-in machines, hand drawing, machine drawing, and any sized waste from weaving. Others include only waste actually made in the slashing department.

Methods of creeling used to reduce hard and soft waste reported were:

Mill A: When a set runs out we lift the squeeze rolls, cut steam off cylinders, and rinse squeeze rolls. New set of section beams is creeled, tied to the old set, and pulled to the front of the slasher. All sized yarn from the old set is used, except for about 4 yards which is put into hard waste.

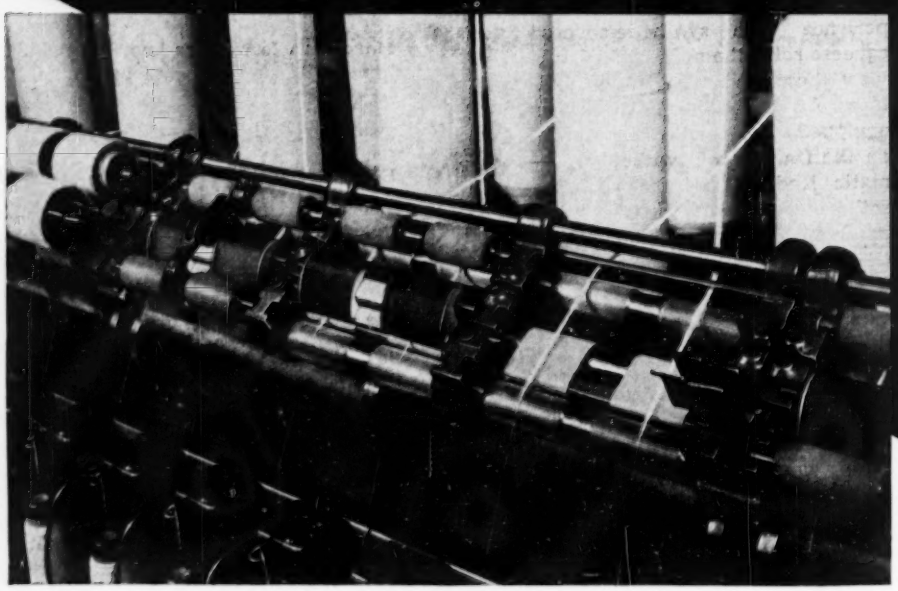
Mill C: Run off every yard possible before doffing empty warper beams in creel. Then when new set is loaded in creel, lay in lease strings as yarn is being pulled off beam so that fewer yards will be run before first lease string comes up to lease rod.

Mill D: Pull up 3 or 4 section beams, then go back and start dropping lease strings until all strings are in place. Before lease

SACO-LOWELL *Duo-Roth*

A DRAFTING SYSTEM COMBINING ALL THE QUALITY BUILDING AND COST SAVING ADVANTAGES OF THE SINGLE AND DOUBLE BELT SYSTEMS.

1. The long, thin, flexible bottom apron passes the nose of the apron bar with a small radius of curvature in a manner which allows a close setting between the nip of the aprons and nip of the front roll, a condition necessary for the most efficient fiber control in the final drafting zone.



2. Without exception, mills using the Duo-Roth System have increased their drafts as much as 50 to 100 per cent, and at the same time have produced a yarn of greater strength and evenness.

3. The greater strength and evenness is vividly shown in a Duo-Roth installation producing 21's yarn from .75 hank single roving, employing a 4.52 twist multiple—the break factor secured is 2339. Previously, the same frames running regular drafting were producing 21's yarn from 1.50 hank single. With same twist multiple highest break factor obtainable was 2104.

4. Duo-Roth is cleaner; there is a reduction in clearer waste as the shorter fibres are efficiently controlled. After raising the draft from 19 on Roth to 33 on the Duo-Roth, one mill was able to extend the top roll cleaning period from 24 hours to 48 hours, on a three-shift basis. Another mill, with a 50 per cent increase in draft after changing to Duo-Roth, also extended the top roll cleaning period from 24 hours to 48 hours.

5. Duo-Roth was engineered to be a simple, quickly applied change-over to existing Roth installations. Mills having Roth frames in good condition will find that Duo-Roth will pay for itself in savings resulting from increased draft, reduced cleaning, improved operating conditions and smoother, stronger yarns.

6. Duo-Roth is the only double-apron drafting system which does not develop wear of the cage against the apron driving roll. The standard Duo-Roth middle top roll, driving the apron, is built with a stationary arbor. The cage rests against the stationary arbor, eliminating the possibility of cage wear — a common problem with other systems.

7. The knurled and polished surface of the Saco-Lowell Duo-Roth middle top roll creates a positive and uniform drive for the aprons. Since both of the driving bosses are tied together, there is no variation in the speed of the top roll aprons regardless of the bulk of the strand being drafted. There is no slip or hesitation to create unfavorable conditions in the principal drafting zone.

8. The Duo-Roth, with the adjustable cage is extremely flexible. The correct pressure to establish the necessary degree of fibre control for the most efficient drafting can be quickly attained through easy adjustments.

A BROCHURE FULLY DESCRIBING SACO-LOWELL DUO-ROTH IS AVAILABLE ON REQUEST. SACO-LOWELL ENGINEERS WILL ALSO BE GLAD TO ARRANGE A DEMONSTRATION.

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strings enter size box apply a sandwich of masking tape to hold lease. After lease strings are run through size box, slasher is stopped and size drawn. Lease is then struck at front of slasher on soft yarn next to sandwich of masking tape.

Mill G: Instead of using the over-and-under method of threading section beams, we pull each beam over ball bearing rolls straight into the size box.

Weaving

Overhauling Looms. In a discussion of the merits of overhauling looms in place versus removing them from the weave room to the machine shop or maintenance department for overhauling, most of the mills which had tried both systems said that they preferred to overhaul them in place. Reasons given included the following:

It is often difficult to move looms that are to be overhauled, without moving other looms.

Looms start up easier and better if left in place.

There is a danger of breaking parts when moving looms.

Settings need adjustment after a loom is returned to the weave room, since temperature and relative humidity conditions are usually different.

Expense is less.

Mill B, however, prefers to move looms for a major overhaul, because it is then easier to steam clean and paint the looms, and the overhauler has more space to work in. **Mill K** also prefers to move looms for an overhaul, feeling that a better job is thereby accomplished.

Training Loom Fixers. Most of the mills replying to a question asking their method of training loom fixers have some sort of training program, although in many cases it amounts to little more than putting learners with an experienced fixer.

Mill A has a training room where all fixers, weavers, and battery hands are trained. Fixers are thoroughly instructed in each loom setting; all settings are made by gauges. Weavers are instructed in all phases on their work, such as

Check These When Size Pick-Up Is Off Standard

- ► New lots of starch and compounds with different properties.
- ► Cooking or storage temperatures not correct.
- ► Homogenizer pressure not correct.
- ► Variation in cooking cycle.
- ► Various controls not operating properly.
- ► Pressure type squeeze rolls not set correctly.
- ► Pneumatic loading device improperly set.
- ► Synthetic - covered squeeze rolls need buffing.
- ► Yarn wound rolls not redressed on schedule.
- ► Operator's carelessness in weighing or measuring.

How One Alabama Mill Schedules Preventive Maintenance in the Weave Room

Putting in New Shuttles

Before the loom fixer secures an order for a new shuttle he must carefully check the following:

(1) Lay must be lined.
(2) See that all leather is good.
(3) See that play is out of protector rods.
(4) See that loom is picking properly.
(5) See that play is out of rocker shafts.
(6) See that there is no play in battery.
(7) See that brakes are set properly.

The fixer then leaves his straight edge on the loom and goes to his second hand for an order for a new shuttle, at which time the second hand goes immediately and checks the loom to be sure that these various parts have been properly checked before the new shuttle is installed.

Shuttles are taken out of the box for the weekend shutdown, and once a month their condition is checked by the overseer.

Loom Fixers' Schedule

At the beginning of the shift the fixer checks all of the looms on his section to be sure that they are properly boxing before starting to work on any flags that may be up on his job.

The looms on each section are divided equally among the three shifts and each shift fixer follows this schedule on his third of the looms:

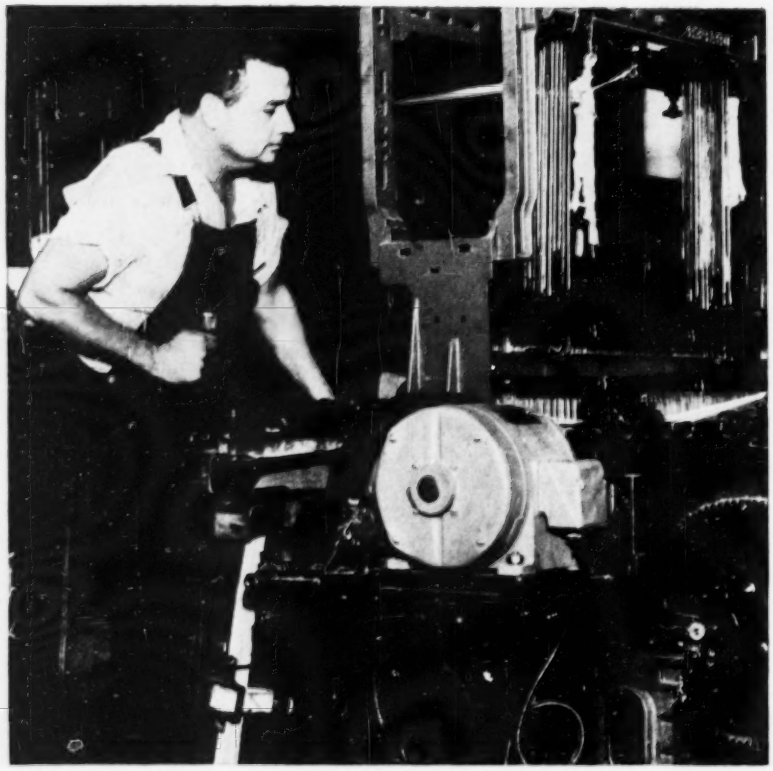
Tuesday: The fixer checks the looms assigned to his shift on his section to see that they are picking correctly from both ends.

Wednesday: The fixer checks the swords on the looms assigned to him to see that they are tight.

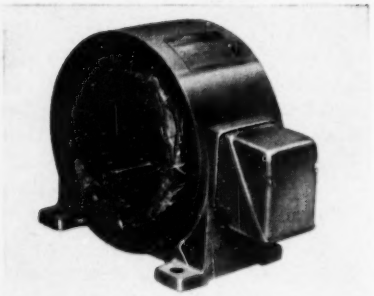
Thursday: The fixer checks his loom assignment in the following way:

(1) Sandpaper and tallow the shuttles.
(2) See that the groove in the shuttle is correct.
(3) See that the bristles and fur are in good condition.
(4) Check the leather on the binders, box fronts, and back box plates.
(5) See that the pickers on both ends of the looms are in good condition.
(6) See that the shuttle springs are tight and holding the quills straight.
(7) See that the screws are not cutting the reeds.
(8) Lay end plates.
(9) Shuttle race board.

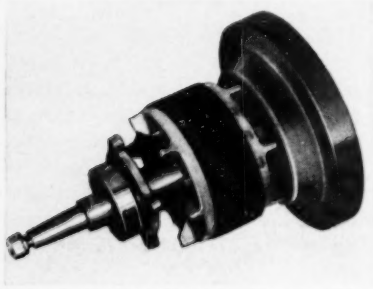
On the day following that on which the above checking is to be done, the shift second hand checks on each section to see that schedule is followed.



SMOOTHER OPERATION on this loom in a southern cotton mill is provided by a 1-hp G-E Tri-Clad loom motor. This new motor has protection features—physically and electrically—not usually found in ordinary motors.

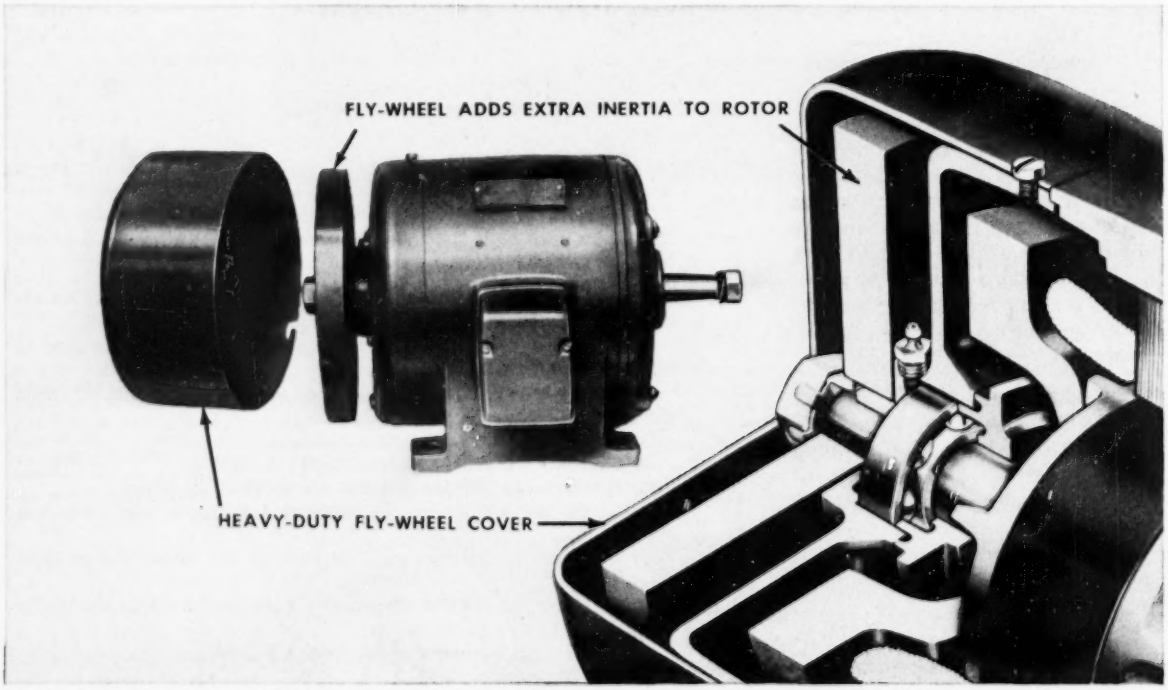


NEW STATOR INSULATION, entirely coated with G.E.'s new Dri-Film silicone water repellent, resists moisture.

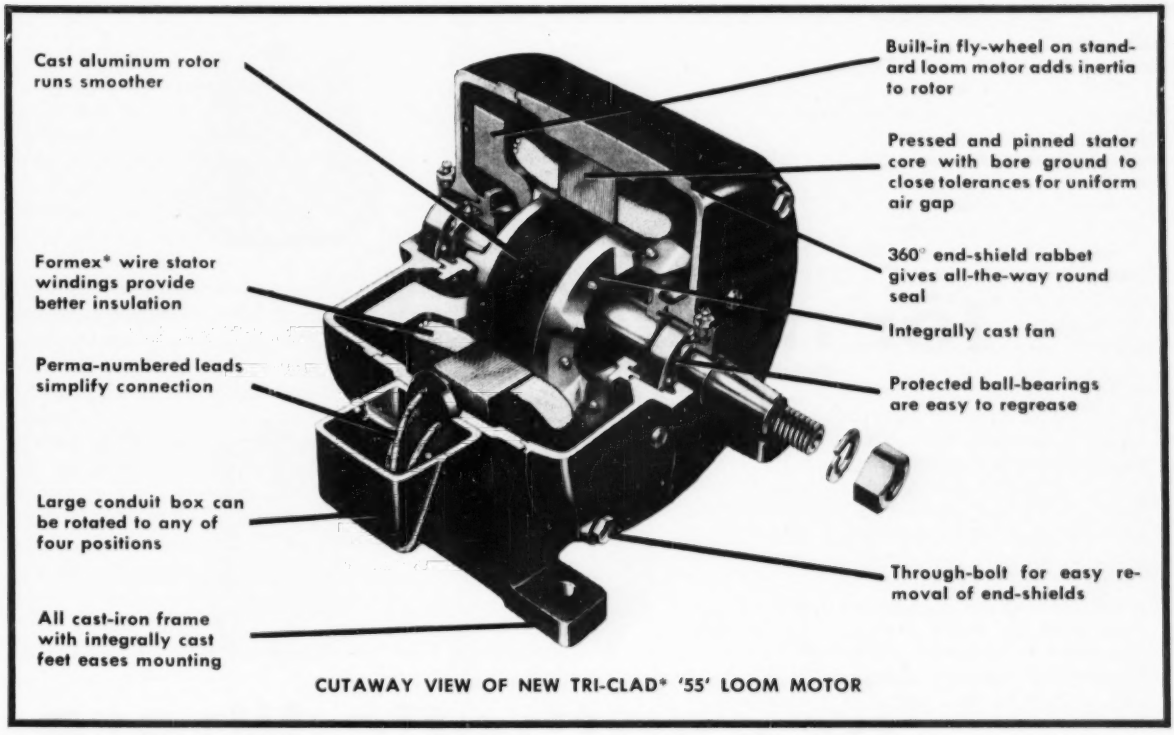


DYNAMICALLY BALANCED rotor and fly-wheel—rotor has integrally cast fans, is shrunk onto shaft for tighter fit.

NEW G-E loom



MORE CONSTANT PICKING SPEED—on those few applications requiring extra high inertia—the standard G-E loom motor can be fitted with an external fly-wheel. Where loom cycles vary widely, this enables the new motor to successfully do a job usually requiring a larger motor. Constant speed gives you more effective picking and lower power costs. Photo shows motor with cover off, and cutaway view demonstrates how the extra fly-wheel becomes an integral part of the motor


Cast aluminum rotor runs smoother
Formex* wire stator windings provide better insulation
Perma-numbered leads simplify connection
Large conduit box can be rotated to any of four positions
All cast-iron frame with integrally cast feet eases mounting
Built-in fly-wheel on standard loom motor adds inertia to rotor
Pressed and pinned stator core with bore ground to close tolerances for uniform air gap
360° end-shield rabbet gives all-the-way round seal
Integrally cast fan
Protected ball-bearings are easy to regrease
Through-bolt for easy removal of end-shields

CUTAWAY VIEW OF NEW TRI-CLAD* '55' LOOM MOTOR

motor gives constant picking, cuts power costs

APPROVED BY FACTORY MUTUAL, new switch keeps lint out, keeps motor running full time.

New extra-protected motor in both standard and fly-wheel types, plus new lint-tight switch, combine to help withstand severe loom service with minimum maintenance

Top fabric output is possible when you power your looms with General Electric's new Tri-Clad '55' loom motors. The standard motor has an internal fly-wheel, and the fly-wheel motor has both internal and external fly-wheel for applications requiring extra-high inertia.

Extra motor protection is built in by using new insulating materials and cast-iron end-shields and frames. Stator laminations are welded in eight places for a more rigid steel core, and G.E.'s Dri-Film* silicone water repellent virtually eliminates core insulation failure due to high humidity.

Large Grease Reservoir enables motor to run for long periods without regreasing. When necessary, regreasing is made easy by simply removing drain plug and giving bearing a few quick shots with grease gun.

New lint-tight loom switch has labyrinth seal arrangement around recessed toggle opening. Die-cast aluminum handle slides against moisture-, fungus-, and insect-proof cotton felt gasket.

For more information, contact your local G-E Apparatus Sales office, or authorized agent or distributor. Write for Bulletin GEA-5858A, General Electric Company, Section 654-35, Schenectady 5, New York.

*Registered trade-mark of the General Electric Company.

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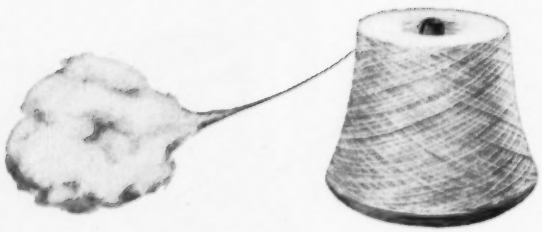
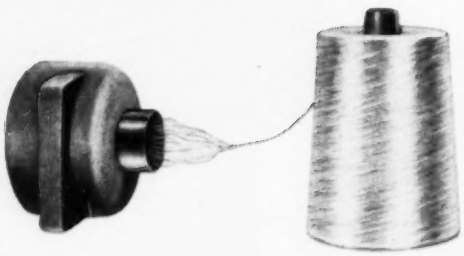
GENERAL ELECTRIC



for natural



...or synthetic fibers

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- **Specialized textile technical service not ordinarily available!**

In textiles . . . as in chemicals, it takes *both* fine materials and know-how for a concern to maintain leadership in its field.

In addition to supplying textile chemicals that have set a standard for the industry for over 70 years, SOLVAY also offers know-how covering the use of its products in the textile field through its *specialized* textile Techmcal Service.

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how to start up a loom so as to prevent set marks, etc.

Mill B employs a full time loom fixing and weaving instructor, who has a special classroom equipped with two looms and the necessary tools to instruct fixers and weavers. Each fixer is taken through the breakdown of each loom motion and a record kept of the date, fixer's aptitude, etc. Fixers are given a refresher course when the assistant foreman finds from his loom checks that the fixer's settings are off, or if seconds increase because of a particular weaving defect.

Most of the other mills reporting place a learner with an experienced fixer; he remains with him until the fixer decides that the new man is able to handle his own section. One mill supplements its program with vocational classes in loom fixing offered by the Alabama State Department of Education.

Maintaining Even Tension on Filling. The mills reporting use the following combinations of fur and bristles in the shuttle to maintain an even tension on filling:

Mill D uses one bristle across the top of the quill at a 45° angle, in addition to using fur. Filling yarn run is 10s to 22s spun rayon.

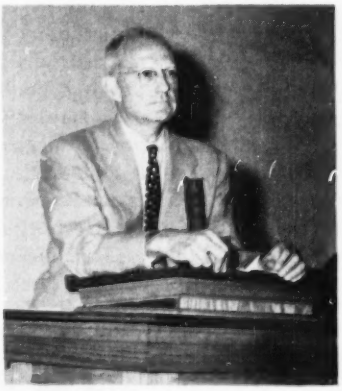
Mill E uses opossum fur and bristles; on 54″ and 60″ looms wool yarn in split binders (yarn numbers 4s to 18s) is used.

Mill F uses a 4″ piece of New Zealand opossum fur on the front wall of the shuttle, and a 5″ piece on the back wall. Two bristles are also used, one on each wall of the shuttle. Filling numbers run from 3s to 16s.

Mill H uses the following method to maintain even tension on 33s filling, 8¾″ quill, on 90″ Model L looms running at 100 ppm:

1. Have quill properly lined with shuttle eye.
2. Put back fur, 6″ long and ⅝″ wide, ¼″ from bottom of shuttle; and front fur, 3½″ long and ⅝″ wide, ¼″ from top of shuttle.
3. Put top bristle in shuttle 6½″ from end of shuttle spring, ¼″ from top, at an angle of 45° forward and 30° down. Put bottom bristle 6¾″ from the end of shuttle spring, ½″ from the bottom of the shuttle, 45° forward and 30° up.

Mill J uses opossum fur for maintaining tension with single yarns, 10s and above, and bristles for coarser numbers. Bristles are used on plied yarns, but on some numbers a combination of bristles and fur appears to work best. When bristles are used alone, there are nine per shuttle on single filling and ten per shuttle on plied yarn. The bristles are arranged in two rows, one on either side of the shuttle, with the hair pointing in the direction that the filling unwinds. The number of bristles varies when they are used in combination with fur.



CHAIRMAN for the weaving discussion was **W. E. Williams,** Avondale Mills, Sylacauga, Ala. Mr. Williams passed away on Oct. 22, 1954.

How to Keep Left-Hand Shuttle Eyes from Becoming Unthreaded. Only one mill had a recommendation to make to prevent left-hand shuttle eyes from becoming unthreaded when running ply filling. **Mill D** puts 13 bristles in the shuttle, 7 on top and 6 on the bottom. The filling is laid in the battery with a sharp angle to make it thread up more cleanly. The mill runs 40s/2 filling at 180 ppm.

The Economic Outlook

By Murray Shields*
Vice-President and Economist
Bank of the Manhattan Company

No matter what fluctuations time may bring in the level of business, the rate of technological advance makes it inevitable that our long term growth trend will be sharply upward, potentially more so than has ever before been the case in this or any other nation.

For the next decade it is extremely unlikely that we shall experience anything more than one or two "deep recessions" or "little depressions." We need not fear another long deflation, such as we experienced in the '30s. Further, there is no prospect of a monetary panic or crisis.

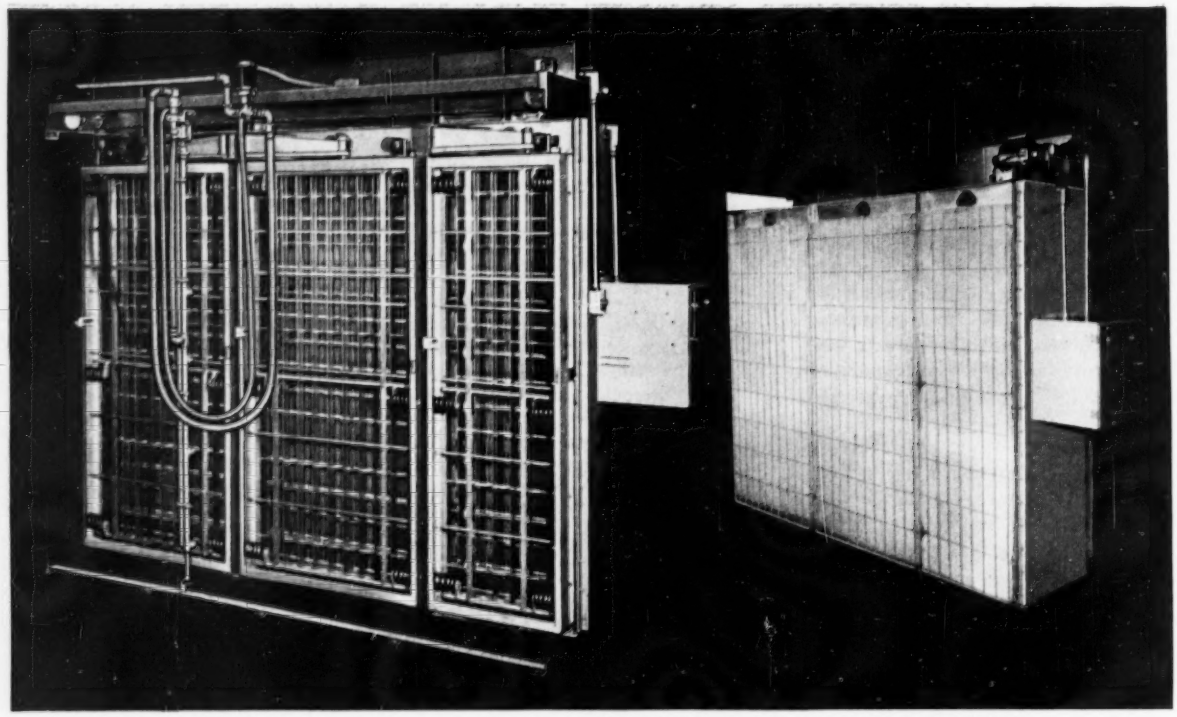
Nevertheless, it will be well to base our planning on the probability

a. That we will experience fairly deep recessions from time to time and that, even if we were to be successful in producing a slump-proof economy, it would still be a good bet that in the course of the next decade almost every major industry would at one time or another experience its own little depression,

b. That we are in a long rolling postwar readjustment affecting first one segment of the economy and then another and at the same time in a long rolling inflation involving first one part of the price structure (wages, commodities, real estate, bonds and equities) and then another, and,

c. That the rosy days of easy profits are behind us; that we clearly are entering a long period of extremely severe competition and lowered profit margins, which will force business to engage in intensive cost cutting, vigorous promotional activities, and aggressive new product development; and that we are back to a *rather rugged normalcy* after a long period when high backlogs, huge military outlays, and inflation made business unduly profitable for almost everyone.

*From a recent address before the American Life Convention, Chicago, Ill.



New Type "H" Washer incorporated as an integral part of the Electro-Cell precipitator. Spray nozzles for both the washing and collector plate coating operations travel on an overhead trackway. RIGHT: Rear view of Electro-Cell showing water eliminators consisting of Amer-glas pads which catch any surplus spray escaping plates during washing operation.

PUSH-BUTTON MAINTENANCE IS HERE!

AAF Electro-Cell Precipitator with Type "H" Washer cleans both the air *and itself* automatically

Super-clean air around the clock for all your production needs without maintenance worries! Dust, soot and even smoke are "easy pickin's" for the high efficiency AAF Electro-Cell electronic precipitator. Now, with the addition of the new Type "H" Washer, that periodic cleaning operation (so essential to continued efficiency) is reduced to a mere push of a button.

Easy? Let's push the button and see what happens. First, the spray header moves back and forth across the face of the plate cells, washing away the accumulated dust and dirt. After a five-minute drying period, an adhesive coating is then applied to the clean collector plates through another set of spray nozzles mounted on the traveling header. Each operation is automatically timed. There's no opening and closing of valves or clock watching on your part. That one press of the button did the complete cleaning job.

It's a thorough job, too, because the spray heads are automatically adjusted to always point at a 5-degree angle in the direction they are traveling. Each side of each individual plate receives a thorough washing and even application of adhesive over its entire depth.

A high efficiency precipitator with a dependable, always available maintenance crew "built-in"—that's the AAF Electro-Cell with Type "H" Washer. For complete product information, call your local AAF representative or write direct.

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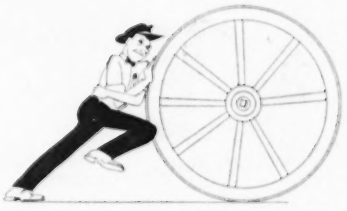
EXCLUSIVE

Foremen's Problems

and how to solve them



"Industry's foremen—a loyal, diligent force"

By Arthur C. Croft
President, National Foremen's Institute
New London, Connecticut

AN EXECUTIVE who has studied grievance machinery in many organized plants compared the procedure applying to production workers to a late model Cadillac. "What is done about foremen's grievances, however," he said, "is a 1920 Maxwell." He pointed to the fact that foremen's gripes seem to get nowhere. They tend to be repetitive, carrying over from year to year without anything being done about them. Although this may be overstating the case somewhat, there is no doubt that management's attention can be profitably devoted to the problem. The foreman group is too valuable and vitally important an element of management to allow it to become corroded through dissatisfaction or dulled through misinformation.

Classifying Foremen's Grievances

The most frequent complaints of foremen may be grouped as follows:

(1) Long Term: Complaints which stem from accumulative practices and where correction may take a relatively long time. Under this heading would be items such as: wage differentials, lack of prerogatives, little chance for promotion.

(2) Day-to-Day: Complaints whose sources are conflicts in normal operations, problems with maintenance, communications, etc., can usually be found rather quickly. Corrective action, however, may take some time.

(3) Personal: Difficulties because of personality factors, relations with other departments, and reactions to superiors.

Foreman—Angel or Devil

Much of the management criticism leveled at some foremen is justified. By and large, however, observers agree that industry's foremen represent a loyal, diligent force who react most favorably to consideration and understanding. It is in the interests of increased understanding that the following sample grievances are exhibited.

The following quotations have been picked from recent opinion surveys; they are typical of a large percentage of foremen's gripes:

I. Long Term Grievances of Foremen.

A. LACK OF PROMOTION: INCOMPREHENSIBLE PROMOTION POLICY.

Foremen say:

" . . . I've been in this job twenty-three years. But whenever a better job has to be filled, an outsider gets it."

"If you're not a relative you haven't got a chance for promotion. . . "

APPROACH: In the majority of cases, misinformation or no information generates misconceptions. Does your company have a logical, fair promotion ladder for foremen? Have the foremen been told about it lately? Do promotions from foremen ranks in the past five years bear out this policy?

SOLUTION AND PREVENTION: Critically review present policy and make necessary changes to make it currently equitable.

B. NO VOICE IN UNION CONTRACT NEGOTIATIONS.

Foremen say:

"You've got to be a lawyer to get people to understand those clauses about reporting pay, layouts and standbys. Cause me an awful lot of trouble. They ought to be plain and simple. . . "

"Second time around. We had meetings six months ago asking for our ideas about changes in the contract. Rehashing same old stuff. They paid no attention the last time and they won't now. . . "

APPROACH: Gauge the depth and width of difficulties created by operational clauses in contract. Foremen should understand the intent and application of every clause. Troublesome clauses may be wrong—the foremen may be

Problem cases, which may be used as referral points ("Look at old Joe. . . "), may be dealt with on an individual basis. Keep foremen informed.

EAGLE BRAND CORN STARCH IS SUPERIOR TO ROOT STARCHES IN THESE RESPECTS:

- **Greater Uniformity**
- **Always Available**
- **Has Greater Viscosity Stability**
- **Has Lower Moisture Content**

Get more uniform sizing of combed yarns with EAGLE® brand corn starch

"A complete line of starches from the world's prime producer of starch products."

Today's slasher operation requires extremes in fluidities. Eagle Brand Corn Starch meets the most exacting of these demands. Eagle Starch is an acid-converted, thin boiling starch, available in all fluidities. Since all viscosities are obtainable, Eagle Brand Corn Starch enables the mill to meet its concentration needs precisely. Eagle Starch makes a smoother, tougher size that contributes to higher loom efficiency.

• ***Technical*** mill and laboratory assistance is yours without obligation. We welcome an opportunity to help you solve your specific production problems. Write us.

EAGLE CORN STARCH

CORN PRODUCTS REFINING COMPANY · 17 BATTERY PLACE, NEW YORK 4, N. Y.

right. A feeling of participation is developed if foremen's reactions are invited. Some foremen's prejudices form blocks to proper implementation.

SOLUTION AND PREVENTION: If meetings are held, someone capable of explaining technical points should be in charge. If suggestions are accepted from foremen, disposition of their ideas should be reported back to them. During negotiations, foremen should be kept informed before anyone else. After the contract is signed, they should be briefed on changes.

C. THE TIME LAG IN WAGE INCREASES.

Foremen say:

"The company said it was wrong to tie our salaries to union negotiations, so we didn't get a raise the last two times wages were increased. Doesn't seem right, somehow. . . "

"Merit increases are a laugh. I haven't had a raise in five years, and the department is almost twice as big as it was then. . . "

"We're expected to work overtime, Saturdays and Sundays, if necessary. But do we see any extra money?"

APPROACH: The pressures of rising wages of production workers, and living costs, have caught some foremen in a squeeze. Merit increase procedures might be reviewed, not only in relation to former years, but in relation to the hourly rate curve. The maintenance of a 15% or 20% differential is important as a factor in foreman leadership and department morale. Merit increases, important to all foremen, are particularly vital to men recently promoted.

SOLUTION AND PREVENTION: Inform foremen of your policy and the reasons for it. Keep them informed on changes and why they are made. Inform them individually of their exact status. Review foremen salaries at stated intervals.

D. BUDGETS AND QUOTAS ARE MEANINGLESS.

The most frequently heard grievances arise when foremen who are asked to submit budgets and quotas find that their recommendations are ignored; or when foremen receive arbitrary figures without prior consultation.

"Each year it's more and more production, less and less to spend. . . "

"Why do they go through the motions of asking *me*? They make up their own minds anyhow. . . "

APPROACH: Personal horizons are frequently limited to one's own department. Overall company problems and goals should be interpreted so that each foreman understands his contribution to the whole.

SOLUTION AND PREVENTION: Whether estimates are requested or not, foremen should be given some justification for the figures set for their department. Praise or prizes given solely on percentage of quotas should be supplemented by recognition of good performance based on handicaps encountered or bad breaks overcome. A personal understanding between departments involved should pay dividends. Through communications, foremen should never be permitted to lose sight of the overall company position.

"Foremen should know management's thinking"

II. Day-to-Day Grievances of Foremen.

A. "THAT (#)$%!!&(!)&!$%!& MAINTENANCE DEPARTMENT!"

One of the sorest spots on foremen is the chafed areas where they come in contact with maintenance. Perhaps friction is caused by their dependence upon that department and their lack of control over it. Pressure for production on foremen is constant and any interruption is resented. If the interruptions cannot be blamed on maintenance, at least the time taken to make repairs can be held against them.

Too many maintenance departments, being in a state of perpetual seige by foremen, assume a defensive attitude. Being under constant pressure, they are in no mood to win friends and influence people, especially foremen.

If this running fight is in existence, bad relations mean loss in efficiency, poor morale, more stoppages and downtime, excessive maintenance costs, and higher percentage of seconds and waste.

Foremen's grievances about maintenance are usually directed at:

(1) lack of preventive maintenance

(2) temporary repairs rather than thorough jobs

(3) chronic behind-schedule of maintenance department

(4) allocation of priorities not in hands of operations

(5) understaffed maintenance crews

(6) paucity of standby equipment

(7) decisions to repair rather than replace machines

(8) substitutions in lieu of specifications

(9) favoritism

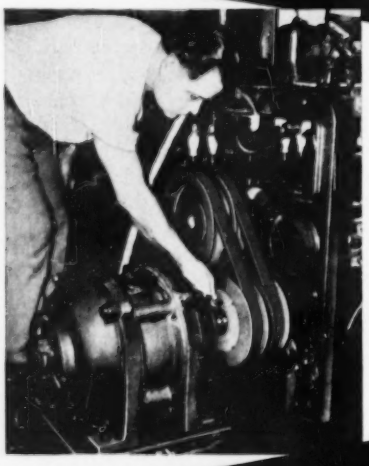
APPROACH: Friction is costly and needless. If it is impossible to find a completely objective executive to survey the situation, consideration should be given to using skilled outside help. Traditional lines of authority and operation sometimes persist in maintenance despite changes in other parts of the plant. Cost fact-finding might help give perspective to a revision of the maintenance department's organization and budget. Understanding each other's problems will smooth relationships. Methods of reporting and allocation of priorities might need review.

SOLUTION AND PREVENTION: Temporary betterment can be obtained by having group meetings between foremen and maintenance representatives. Blowing off steam, and explanations will help clear the air. Permanent improvement will come if maintenance is geared realistically to the needs of the operations departments. Some method of hearing and acting on foremen's grievances, as well as those from maintenance, should be set up with two-way reporting of results.

B. LACK OF INFORMATION; SLOWNESS OF IT WHEN IT

Now--

Pre-set the Pitch Diameter



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of Mishawaka, Ind.

Call the Transmissioneer, your local Dodge Distributor. Factory trained by Dodge, he can give you valuable assistance on new cost-saving methods. Look for his name under "Power Transmission Equipment" in your classified phone book.

DOES COME DOWN.

"It's embarrassing to find out from my men what's going on in the front office. . . "

"They ask me questions, and I feel like a dummy when I can't give them the right answers. Have to run upstairs all the time. . . "

APPROACH: If foremen are to function as representatives of management, they must know management's side of every question pertaining to their duties and their people. Informed foremen are better foremen. Speed is as essential as facts; a combination of both make the best weapon against rumors.

SOLUTIONS AND PREVENTION: An opinion survey will reveal whether or not your foremen are getting information as often, and as fast, as they need it. Some information should be transmitted daily, some weekly, some at longer intervals. Responsibility should be assigned to someone for selection and dissemination of news items; he should see to it that all information flows down the line with greatest dispatch.

C. THE FEELING OF NOT BEING BACKED UP.

"I decide to discipline a man, and he knows he can reverse my decision by appealing higher-up. . . "

"After I get everything laid out, the super comes along and turns it all around. . . "

APPROACH: Cutting the ground out from under a foreman kills his desire to do a good job and spoils his position as leader. However, complaints localized in one or two departments may indicate lack of human-relations techniques, or misunderstandings, or lack of information on the part of the foreman.

SOLUTION AND PREVENTION: Fairness to worker and foreman alike must be maintained to keep loyalty of both. Someone not involved directly with foremen relationships with higher echelons should analyze these grievances and discuss them with the parties involved. Adjustments are usually made on a personal basis. A watchful eye should be kept on recurrences of complaints to prevent more serious situations from developing.

D. CHANGES, CHANGES, CHANGES.

"I get stop orders on jobs where I know and my men know that it costs more to stop than to finish up. . . "

"It beats me. We had changes on one ticket three times in one shift, and we left it right where it was when we started up on it. . . "

"They never tell me why, they just tell me to do it. My people make a joke out of it. 'Hold your hats boys,' they yell, 'Here we go again' . . . "

APPROACH: Someone must judge whether changes are justified, or whether the welter of commands and countercommands are the results of poor organization, planning, research information, hasty judgments, confusion or errant stupidity. Explanations go far

" . . . but who is going to tell the president?"

in reconciling foremen and their people to what might appear to be senseless deviations from original instructions.

SOLUTION AND PREVENTION: Runback on some orders that have proved troublesome in production, charting the backtracking and detours through the plant. They can reveal the key spots where foul-ups occur, or they may be used to illustrate to personnel of concerned departments what changes mean to costs and waste. Beginning at the top have every order or change include a brief "why." Let members of the engineering department, planning section or research division tell foremen *their* problems.

E. NON-COOPERATIVE SHIFTS AND DEPARTMENTS.

"The third shift gets the dirty end of the stick, and there's no brass around to straighten it out. . . "

"We've got to get the stuff if we want to keep operating. They're supposed to bring it to us, but they never do. . . "

APPROACH: Minor bottlenecks should be cleared for greatest efficiency of operation. The faults may lie in methods, but they frequently lie in personalities.

SOLUTION AND PREVENTION: A troubleshooter sensitive both to possible personal differences as well as problems of materials handling and methods can save the company time and money. Personality problems can most often be ironed out with the aid of supervision immediately above the foreman level. Chronic gripers may need individual attention.

F. HOUSEKEEPING CHORES TOO GREAT.

"I sneak back in here on Saturday afternoons and clean up like a porter. . . "

"How can I get production if I pull men off the job to clean up?"

"We've been overcrowded for years. No place to put stuff. Yet, they're always on my tail about housekeeping. . . "

APPROACH: Good housekeeping is desirable and necessary, but is it creating problems that interfere with production, or adding pressure to foremen's problems? Has the company done all it could to make housekeeping easy in supplying racks, bins, storage space, easy-to-clean surfaces, etc.?

SOLUTION AND PREVENTION: Several companies have increased their custodial services and feel that it has been a step in the right direction. An analysis is necessary before action is taken, especially an analysis of how hard foremen are ridden by those in charge of housekeeping. Foremen usually have practical ideas of how the situation can be improved and their views should form the basis for improvement.

III. Personal Grievances of Foremen.

A. BY-PASSING THE FOREMAN

"The shop steward seems to be the big gun in this department. The super handles everything and I don't know what happens afterward either. . . "

"Engineers and time-study men go by me like I don't exist, and

Moisture Indicator on Picker Helps Improve Yarn Count Uniformity

A moisture indicator was installed at the picker in an effort to reduce the variation in yarn numbers at Joanna (S. C.) Cotton Mills. The quality control department conceived the idea in the search for more exacting controls in making uniform picker laps.

A Minneapolis - Honeywell moisture indicator of the type used on slashers (see accompanying illustration) was adapted for this application to more accurately control picker lap weights. A recording instrument is located near this device, and since the indicator was installed, the meter has been checked daily, samples have been tested, and readings indicate that the arrangement is accurate to plus or minus .015 per cent based on the actual regain in the cotton.

The moisture indicator provides sufficient information to aid materially in effecting an improvement in quality control, and together with other measures has brought about an improvement of 25% in count variations of yarns.

The meter gives an immediate indication of moisture in the lap, and records the variations on the chart marker. In this instance the moisture regain is checked once each hour and tare weights are added at picker lap scales to compensate for changes in moisture content to assure as closely as possible the same amount of cotton (on bone dry basis) in each lap.

can they screw up my production. . . "

"They (company officials with visitors) come through here a dozen times a week. Sometimes they act like detectives hunting for a criminal, get my people all nervous. Sometimes they kid around with the girls until they get the whole line balled up. I don't think they say 'hello' to me once out of ten times, and they almost never tell me what they'd like to see, or why. . . "

APPROACH: The foreman's natural concern about everything in his department and his pride in it are things to be preserved. Normal courtesy should be observed.

SOLUTION AND PREVENTION: Since offenders are usually limited to higher-ups, pointed remarks at staff meetings may suffice. Department heads should instruct their personnel on the reasons why proper procedures should be maintained. Such instruction should be part of indoctrination courses of new employees.

B. SPECIAL PRIVILEGES ASSUMED

"I've got my hands full enforcing our 'No Smoking' rule. You should see the big-shots come in here smoking, or even lighting up after they get into the department. Makes it tough for me. . . "

"A boy got killed in our freight elevator some years ago. Since then no passengers allowed; it means discharge for an operator to carry passengers. Except, you know who? The president and most of the brass . . . they use them all the time. What are you going to do? . . . "

APPROACH, SOLUTION, AND PREVENTION: Same as above, except, who is going to tell the president?

ABOUT THE AUTHOR

Since 1937, Arthur C. Croft has been president of the National Foremen's Institute, Inc., which he helped to found in 1917. He is a past president of the American Arbitration Association, president of The Housing Foundation, Inc., New London, and a director of the Western Foundry Company, Chicago. Before assuming his present post, Mr. Croft was connected with the McGraw-Hill Publishing Company, New York, and the A. W. Shaw Company, Chicago, for a total of 23 years.

The Institute is the oldest and largest organization in the United States which specializes in training and development programs for foremen and supervisors. Over 55,000 companies in 32 industries use its services and materials, not only for training but also to solve employee relations problems.

All efforts of the Institute are focused on one basic aim—to give business and industry a satisfied working force through improved communications, more enlightened human relations, better supervision, and more intelligent handling of people.

CARDING IS THE FOUNDATION FOR QUALITY

No. 12

TIPS ON FANCIES

IMPORTANCE OF THE FANCY

The fancy is often called the most important roll on the card and rightly so. Improper setting, speed or specification of the fancy are often the cause of poor and uneven roving.

FUNCTION OF THE FANCY

The specific function of the fancy is to raise the fibres to the top of the wire of the cylinder. This is accomplished as follows: — When the wire makes initial contact with the cylinder the points of the fancy are moving in a downward direction which abruptly changes to a forward motion and thence to an upward direction. During this period the points penetrate the stock in the cylinder and move it forward, sliding it up the back of the teeth of the cylinder and then withdraw leaving the stock on the surface of the cylinder so that it may be subsequently removed by the doffer.

CLOTHING THE FANCY

The proper application of fancy wire to the roll is essential to good carding.

1. The wire should normally be put on with hand tension or approximately 75 pounds if a calibrated tension device is used.
2. If wound too tightly the following undesirable results will be obtained.
   (a) The foundation will stretch and cause distortion of the teeth, causing unevenness with high and low wires. Lapping of stock around the fancy and improper raising of the stock will result.
   (b) The wire will be too stiff and give a harsh action, creating more fly and waste than necessary.
   (c) "Shelling out" will eventually occur.

SETTING THE FANCY

A considerable amount of skill and care is needed to properly set the fancy. If set too deeply, it will have a tendency to pack the wool fibres into the cylinder and little raising of the stock will be accomplished. Conversely, if it is not set deep enough the cylinder will load, as the majority of the fibres will be out of reach of the fancy wire. The two most common methods for setting this roll are by chalking and by the use of a gauge; the former method is considered to be the more accurate.

SPEED OF THE FANCY

It is universally acknowledged that the relative speed of the fancy and the cylinder are extremely critical. In actual practice the speed of the fancy must lead that of the cylinder to the extent necessary to raise the fibres to the surface of the cylinder.

GRINDING OF THE FANCY

Since the points of the fancy are in continuous contact with the cylinder they eventually wear to a needle point which is not conducive to good work. A light grinding eliminates these needle points and also smooths up the surface of the fancy.

FANCY SPECIFICATIONS

Fancies vary in specifications as follows: —

1. Wire size:—Nos. 28, 30, 32 and 28/32 wires are some of the most common sizes used in woolen mills. Most worsted mills use plated wire due to the presence of moisture.
2. Foundation: — Because of its relatively high speed and the continual flexing of the wire, resiliency is a necessary characteristic of any fancy foundation. Leather, felt face and rubber face have this characteristic and have proved to be the most satisfactory foundations.
3. Settings: — Woolen fancies are usually open set such as 3R-3T-3N whereas those for worsted mills are close set as for example, 4R-3T-12N.
4. Length of staple: — A long staple, i.e. 1½", will give a softer action than a 1¼" staple. Bent tooth will give a more gentle action than a straight tooth.

PRECAUTION:

Old and worn fancies should be replaced immediately as the condition of the fancy is one of the determining factors in the quality of the carding operation.

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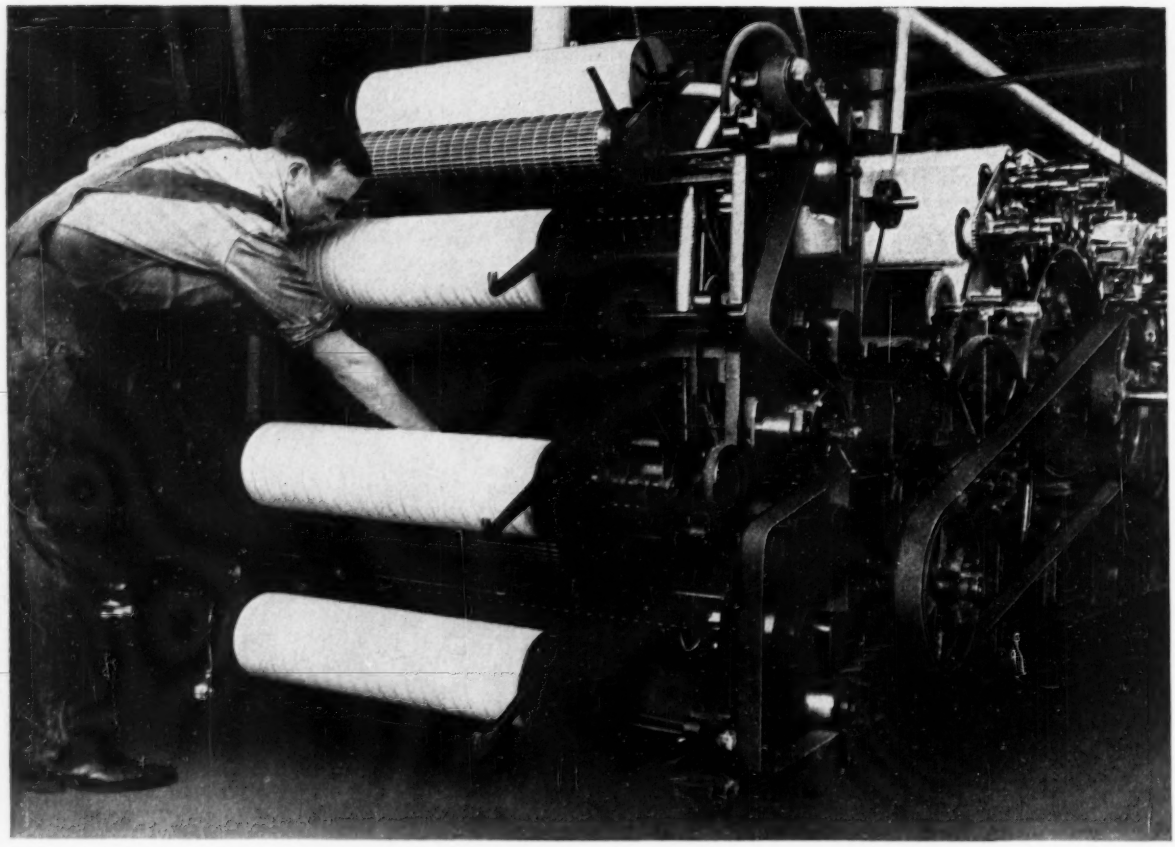

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Many woolen and worsted mills have improved the one and increased the other after adopting our recommendations. Perhaps you can do likewise.

All you have to do to find out is to ask us to send a practical card man to inspect your cards and card clothing. You may be using the wrong clothing or your card settings may be wrong. In any case our man will tell you the facts and you can make your own decisions.

Inspection of cards is only one of hundreds of problems which you and your employees have to think about. We pay men to do and think of nothing else. It is logical therefore that they can, in many cases, save mills' time and money and improve the quality of card output.

Write us at Fall River for an appointment. No obligations.

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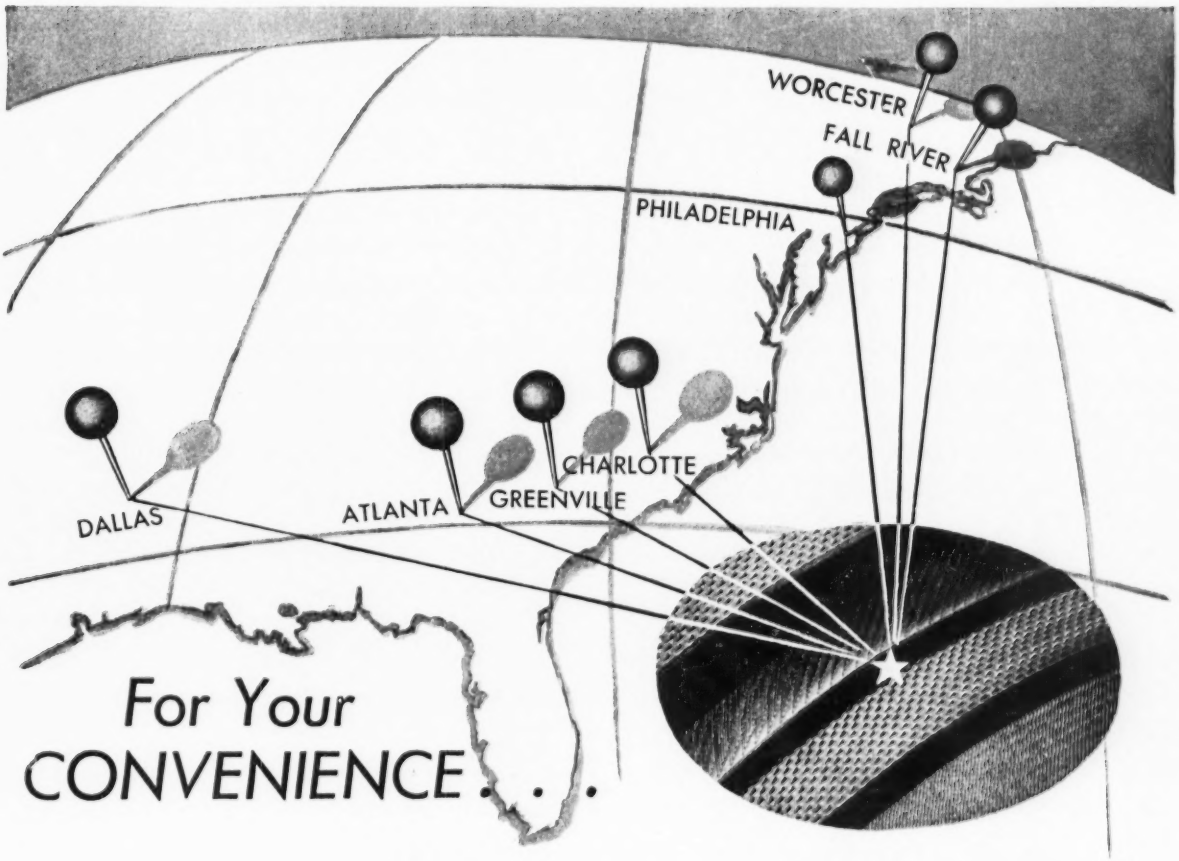
Los Angeles 62, Calif. (E. G. Paules, Representative)

*Factory †Repair Shop ‡Distributing Point

3 FACTORIES • 6 REPAIR SHOPS • 7 DISTRIBUTING POINTS

NO CARD CLOTHING IS ANY BETTER THAN THE SERVICE BEHIND IT



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AATCC Convention Abstracts

(Continued from the November issue)

SIX PAPERS presented in the technical sessions of the 33rd National Convention of the American Association of Textile Chemists and Colorists held in Atlanta, Ga., last September were abstracted by the editors and published in the November issue of "Textile Industries" (see pages 96-99). Their titles were: Soiling of Fabrics; Influence of Temperature on Vat Dye Application; Single Stage Continuous Bleaching; Effect of Softeners on a Resin-Treated Fabric; Evaluation of Enzymes; and Study of Carriers in Dyeing Dacron.

Abstracts of seven other papers follow.

Dyeing Acrilan and Its Blends

By Walter H. Hindle
Chemstrand Corp.

ACRILAN acrylic fiber can be dyed with most of the regularly used types of dyestuffs, by methods not substantially different from those used on the fibers for which the dyestuffs were initially developed.

100% Acrilan

Dispersed Acetate Dyestuffs. These dyes will, at temperatures of 200 F and above, dye Acrilan in a full range of shades without a carrier. Dyeing times range from 45 to 150 minutes. Dyeing assistants are held to a minimum; the best of these appear to be the alkyl aryl sulfonates such as the Santomerses, and non-ionics such as Triton X-100.

Dyeings based on a post-dyeing scour at 140 to 160 F possess excellent crock, perspiration, and washfastness under 140 F. Aftertreatment with 3 per cent (on the weight of the fabric) copper sulfate and 2 per cent acetic acid at 160 F for 20 minutes will increase the washfastness to a point where the dyeings will withstand 5 consecutive AATCC No. 3 wash tests without loss of color and with minimum staining of nylon and acetate.

Many neutral dyeing wool dyes can be incorporated into the disperse formula, using ammonium acetate or ammonium sulfate, yielding 40 to 80 hours Fade-Ometer fastness and excellent washfastness.

Basic Dyestuffs. Certain basic dyes show excellent properties on Acrilan. In up to medium depths, color utilization is good, and even pastel shades show 20 hours Fade-Ometer lightfastness and washfastness equal to the No. 3 test.

Acid Dyestuffs. Application methods are similar to those for wool. Whatever acid dyestuff is used, it is important to apply 3 to 6 per cent sulfuric acid for at least 1 hour to obtain full penetration of dyestuff into the fiber.

Chrome Dyestuffs. The colorfastness normally obtained on wool with chrome dyestuffs can also be produced on Acrilan with a number of structurally simple chrome dyes. An important advantage is their extreme cheapness in relation to conventionality of dyeing method.

Metallized Dyestuffs. These dyes can be applied to Acrilan using 4 to 8 per cent sulfuric acid, to provide lightfastness similar to that obtained on wool and washfastness generally superior.

Vat Dyestuffs. Indigoids and thioindigoids can be applied to Acrilan at temperatures of about 205 F to give better lightfastness than the same dyes do on cotton. Pressure dyeing at 230 F makes available a wide range of vats.

The key point in vat dyeing Acrilan is the use of minimum amounts of caustic, with a pH of 8 to 10.

Soluble vats beyond the light medium depth are not recommended.

Acrilan and Wool

Although Acrilan accepts dyestuffs normally used on wool, if purely wool dyeing techniques are used the wool takes most of the color, leaving the Acrilan slightly stained.

Successful Acrilan-wool dyeings are based on the addition of cationactive materials to the dyebath in the presence of a non-ionic dispersant. The blend is first wet out in a solu-

This simple idea saves money in V-Belt Costs

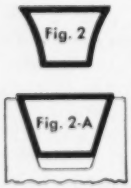
You can prove it in two minutes!

To prove how the CONCAVE SIDES of GATES VULCO ROPES *save money*, just make this simple test—

Bend *any* V-Belt that has *straight sides* (Fig. 1) and—as the belt bends—*feel* the sides *bulge out* (Fig. 1-A). This out-bulge concentrates the wear at the points shown by arrows—and this naturally shortens the life of a *straight-sided* belt!

Now bend a Gates Vulco Rope with CONCAVE SIDES (Fig. 2)

(U. S. PAT. 1813698)



You find that the CONCAVE SIDES *fill out* and become perfectly straight. They thus press *evenly* against the V-pulley. All wear is distributed *uniformly* across the *full width* of the GATES VULCO ROPE—and this means *longer* belt *life* and *lower* belt *cost* for you!

When you buy V-Belts, be sure to get the V-Belt with the CONCAVE SIDES—the GATES VULCO ROPE!

VULCO ROPE DRIVES

THE GATES RUBBER COMPANY
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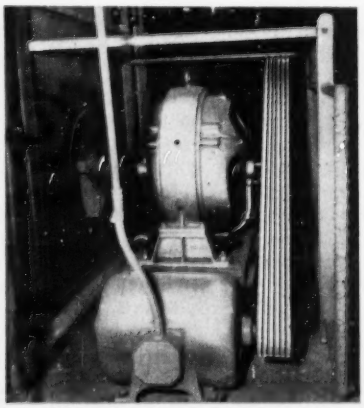
Gates Engineering Offices and Jobber Stocks are located in all industrial centers of the United States and Canada, and in 70 other countries throughout the world.



Typical Gates Vulco Rope Drive—the Gates V-Belts are built with Concave Sides to insure longer belt wear.

tion of non-ionic material, the dyestuff added and allowed to circulate, and then the cation-active material and sulfuric acid are added. Dyeing is continued for a period of 2 hours.

By this method, 60 out of 120 premetallized and level dyeing acid dyestuffs produced effective unions on Acrilan-wool blends.

If the dyeing is first made without the cation-active material, the wool of course exhausts the dyestuff. However, when the cation-active material is added, a transfer takes place which produces union shades. This technique permits use of a number of chrome dyestuffs.

Among the most satisfactory cation-active agents tested so far are Atlas G-263 and Nopcotex A.

Acrilan-wool blends can be dyed using selected dispersed acetate dyestuffs for the Acrilan by a one-bath method, where neutral acid types or neutral dyeing premetallized dyestuffs are used on the wool.

Cotton Slashing With Synthetic Compounds Reduces Stream Pollution

By Duane Snyder
Crompton-Shenandoah Co.

THE METHOD of "in-plant" process changes as a means of pollution abatement, rather than treatment of textile wastes, shows great promise, in that net operating costs are changed very little.

The total biochemical oxygen demand (BOD*) from the Crompton-Shenandoah finishing plant averages 3000 pounds per day—52.5 per cent from desizing operations, 37.2 per cent from dyeing, and 10.3 per cent from bleaching. High-rate biological filtration without prior chemical modification could be expected to have an efficiency of 75 to 80 per cent, would require a capital investment of $250,000, and would have operating costs of $10,000 per year.

Studies show that it is possible to reduce tremendously the pollution stemming from the sizing process if the starch or starch derivatives could be replaced with one or more synthetics having low BOD values.

From cost calculations, it was determined that a product could be used as a size if it cost no more than 40 cents per pound and could be used from a solution of not more than 6 per cent solids with a yarn add-on not to exceed 15 per cent solids. Carboxymethylcellulose (CMC) appears to be such a material.

Plant-scale experiments were conducted on warps totaling 5000 yards. One-half were slashed with 5.5 per cent CMC, and the other half with a starch/CMC mixture in the ratio of 65/35. This ratio does not require enzymes for removal.

The expected lowering of the BOD by the use of the CMC slashing formulas was realized. BOD is reduced in direct proportion to the amount of CMC substituted for starch in the formula.

The dyeing process represents the second major source of pollution. Large quantities of acetic acid are consumed, and this results in high BOD loadings in the stream. Substituting mineral acids for acetic acid in various dyeing processes is one means of eliminating this source.

Ammonium chloride and ammonium sulfate may be used in simultaneous neutralizing and oxidizing of vat and sulfur colors in conjunction with sodium bichromate. Twenty per cent reduction in this process, plus 45 to 50 per cent reductions in desizing, would be sufficient in many instances to eliminate the need for treatment facilities.

The BOD load contributed by the combined desizing and dyeing operations represents 89 per cent of the total produced. It is probable that this pollution can be reduced to the extent that only 30 per cent of the total pollution now discharged will remain. If this can be accomplished, the need for treatment facilities will be unnecessary. This excludes, of course, the need for sedimentation of dye wastes for the removal of color lakes which normally settle to the bottom, inhibiting the normal bottom life in a stream.

*AATCC definition: BOD—The quantity of oxygen utilized in the biochemical oxidation of organic matter in a specified time and at a specified temperature. It is not related to the oxygen requirements in chemical combustion, being determined entirely by the availability of the material as a biological food and by the amount of oxygen utilized by the microorganisms during oxidation.

Factors Which Influence Fastness to Crocking

New York Section

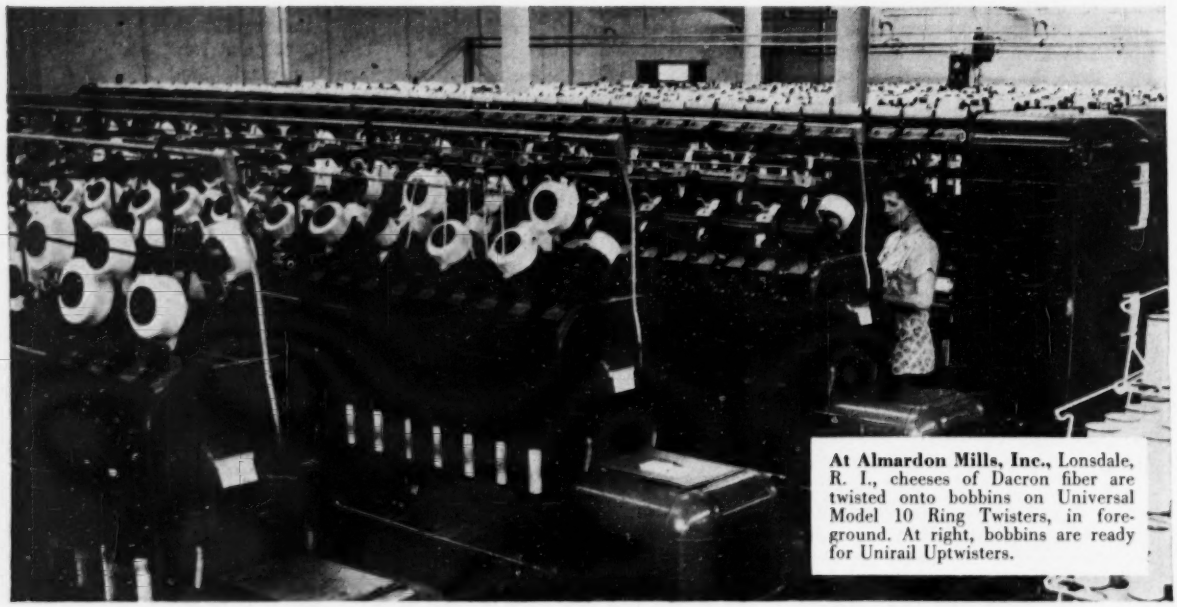
CROCKING, or the transfer of color from one dyed surface to another, is a problem which is intensified by the present trend of consumer demand for colors in vivid, deep shades.

This investigation was aimed at throwing more light on the factors which influence crocking.

Procedure. A series of laboratory and commercial dyeings were made on samples of 80 x 80 print cloth. The samples for laboratory dyeings were divided into three parts. One part was boiled off only; one was boiled off and bleached; and the third was boiled off, bleached, and mercerized.

Samples from each preparatory procedure were dyed with vats applied by one of three methods: pad-steam, Williams unit, or pad-jig; others were dyed with naphthols applied by padding and jigging; and others were printed with vats, azoics, and pigments.

Commercial dyeings were mer-



At Almardon Mills, Inc., Lonsdale, R. I., cheeses of Dacron fiber are twisted onto bobbins on Universal Model 10 Ring Twisters, in foreground. At right, bobbins are ready for Unirail Uptwisters.

Almardon Mills Solves the Dacron-Twisting Problem

Increases production of top-quality yarn to a new high — cuts costs to a new low — with Universal equipment.

Supplied with zero twist, and requiring a high final twist, Dacron has introduced new throwing problems to mills processing this new fiber.

Almardon Mills was no exception. Using its previous equipment, this well known producer of fine quality Dacron piques and lenos was redrawing 70 denier Dacron from cheeses to bobbins, then throwing 20 turns of twist on 12 ounce package uptwisters. Uptwisting speed was slow, the filaments opened, and breakage was high. Flyers were necessary, and due to the abrasive action of Dacron, had to be replaced at every doff. And, if relaxed yarn was required, the added cost of rewinding was necessary.

Here, in the words of Chester H. Boyce, Almardon Vice President, is how this mill solved the Dacron problem:

"We worked out a process with Universal, combining their Model 10 Ring Twisters with their new Unirail® Headless Package Uptwisters. This changed the picture completely. With the Model 10 creels we can insert two turns of twist direct from the cheeses without redrawing. High speed uptwisting is then possible without separation of the filaments. And the Model 10 bobbins are the ideal supply for Unirail Uptwisters.

"Our Unirail Uptwisters put in remaining 18 turns at 14,000 r.p.m. without flyers. And right there we've cut down labor costs and boosted production. No more flyer replacements, and breakage is practically nil.

"Now, with our Universal combination, we're producing big pound-and-a-half Dacron packages — headless packages with *controlled relaxation of the yarn* without rewinding. In our experience, this is the best package you can get for delivery to warping and quilling."

If you are one of the many mills now working with Dacron, why not investigate how this Universal system can improve your own production picture? For helpful information on this — or on any other twisting or winding application, see your Universal representative.

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Winding and Twisting Machinery for Natural and Synthetic Yarns

cerized and bleached, and then pieces were dyed with a naphthol red, naphthol maroon, sulfur brown, or sulfur black. All four were given a finish of 10 pounds of corn starch and 10 pounds of sulfonated tallow oil No. 36 per 150 gallons.

Samples of the naphthol maroon and sulfur black were given either an extra scour, treatment with a melamine-formaldehyde resin, a synthetic rubber latex, or a silicone resin.

The degree of crocking, wet and dry, was determined by AATCC Standard Test Method 8-52 at five laboratories.

Conclusions. Statistical analyses of all the data were made, and the following conclusions reached:

1. Dry and Wet Crocking. The samples invariably rated lower when crocked wet.

2. Effect of Degree of Fabric Preparation. The wet crock-fastness of vat dyes is improved with superior preparation of the fabric. Little effect is noted on the dry crock-fastness of vat dyes and the wet and dry crock-fastness of prints.

3. Effect of Dye Type. Vats rate best, significantly higher than prints, which in turn rate higher than azoics.

4. Effect of Method of Application of Vat Dyes. The Williams method is significantly better to wet crocking, the pad-jig method significantly better to dry crocking, and the pad-steam method significantly poorer to both wet and dry crocking.

5. Comparison of Print Applications. There appears to be no practical difference in the crock-fastness ratings of the three types of prints.

6. Effects of After-Treatments. None of the after-treatments appeared to improve crock-fastness; in fact, the silicone treatment made the black sample crock to a slightly greater degree.

Progress Report on the Bond Processing Machine

By Karl C. Ruppenthal
Pittsburgh Coke and Chemical Co.

THE BOND MACHINE, under development for several years [see TEXTILE INDUSTRIES, January, 1953, p. 108], has passed through the laboratory and pilot plant stages, and is now almost ready for its first production trials. The Hillman Barge & Construction Co., Brownsville, Pa., is constructing the full-size units, and is expected to have a range in operation this year.

Operation. A Bond machine unit is composed of a dye vessel containing two header units on which are attached specially designed perforated plates. The material to be treated passes through the dye vessel between the header plates. The dye liquor or other processing fluid is circulated by a pump, drawing from both sides of the dye vessel. A three dimensional action is thus established between the material and impregnating liquor, which forces dye or other solutions into and through the goods being processed.

The impregnated material is squeezed off by nip rollers, which remove excess liquids.

Bond units may be used alone or with conventional equipment. However, it is believed that if the versatility and compactness of this machine are to be preserved, four or more units should be set up in a range. The exact number of units will vary with the type of work and the versatility desired.

Dyeing Procedures. Several fabric types have been dyed on the Bond machine, including cotton and spun rayon twills, print cloths, corduroy, tapes, carpeting, and terry toweling. In general, results are gratifying. Pile fabrics show particular promise.

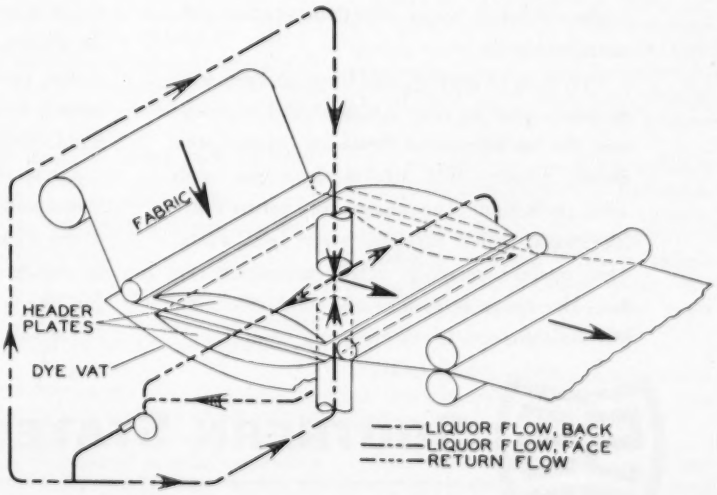
Best results are achieved when recognized dyehouse practices are followed. Materials should be well prepared prior to dyeing. Precautions must also be taken to maintain proper dyeing conditions during the run.

Techniques do vary with various fabrics, however, the following general procedure appears most applicable for vat colors at the moment.

Unit #1—Vat dyestuff in reduced form. Set at 140 - 200 F, depending on color or construction. On long runs, unreduced color, caustic soda, and sodium hydrosulfite are fed separately to an automatic feed tank. The feed is adjusted to maintain a constant level in the units.

Dry cloth is run into the machine at speeds varying from 20 - 100 yards per minute.

A short skying operation after the first unit is desirable in some in-



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IMPROVED CARDING. Typical installation of Southern States ball-bearing, permanently lubricated comb box.

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Overseers of carding, and those charged with keeping operating costs low, are quick to recognize the advantages of Southern States Comb Boxes. Steady, even strokes drive the comb with perfection. The boxes are permanently lubricated, sealed for life, never need oiling. They operate smoothly, quietly and never run hot. The result is greater all-round efficiency, less maintenance, lower operating costs.

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Let us show you with facts and figures how it has paid hundreds of mills to install Southern States Comb Boxes; how little it will cost you to change over and how much you will save in just one year. Drop us a line and our representative will be glad to call at your convenience.

SOUTHERN STATES EQUIPMENT CORP.
HAMPTON, GEORGIA

stances.

Unit #2—Oxidation. Acetic acid and hydrogen peroxide are most convenient; however, other commonly used agents are also satisfactory.

With some colors and cloths, Unit #2 is used as a cold water rinse.

A short skying is also advisable after this unit.

Unit #3—Hot water wash or soaping depending on fabric and dyestuff. Non-ionic detergent and alkali.

Unit #4—Hot rinse.

With the four-unit range it is sometimes necessary to run the cloth through twice—the first passage for dyeing and oxidation and the second for soaping. In plant operation this would be simplified by employing more Bond units, or using conventional soaping equipment.

Other Uses. Scouring seems to be a natural for the Bond machine, and all trials to date indicate that this is true.

The Bond machine should be ideally suited for finishing operations of many kinds. By placing certain finishes in the fiber by liquid pressure, much better results are achieved than when the finish is mechanically crushed on.

The machine should also serve well as a mercerizing unit or saturator for chemicals of all kinds.

We might mention at this time that a modified Bond machine unit has been in operation for 5 to 6 years for continuously developing, soaping, and finishing screen prints made with vat leuco esters and naphthols.

Tint Removal from Staple Fibers

Philadelphia Section

THE INCREASING variety and complexity of blends of the newer synthetic fibers, either among themselves or with older synthetic fibers or natural fibers, has made more and more necessary the use of tints to identify the different fibers and yarns while they are being processed.

The advent of the new fibers has been accompanied by the development of new processing operations and the modification of older ones. Hence, the dyer is faced with a problem of tint removal complicated by the tendency of these operations to fix in some of the fibers many dyes and pigments applied as fugitive tints.

Materials Used. Eleven staple fibers and one continuous filament yarn were tested for effect of various processing conditions on tint removal. These were cotton, acetate, viscose, silk, wool, nylon, Dacron, Acrilan, Orlon Type 42, Dynel, and Vicara.

The following tints were used:

Dyes

1. 0.5 g/l Tartrazine (CI 640)
2. 0.5 g/l Amido Naphthol Red 6B (CI 57)
3. 0.5 g/l Indigotin IA (CI 1180)
4. 0.5 g/l Wool Green S (CI 737)

Pigments

1. 4.0 g/l Algol Yellow GC (Pr 9)
2. 4.0 g/l Helindon Pink R Extra (Pr 109)
3. 2.0 g/l Copper Phthalocyanine Blue (Pr 481)

Method. The tints were applied by padding from water solution or dispersion at 110 F. A squeeze which would normally yield a pickup of 70 per cent on 8.2-ounce cotton twill was used. No assistants were incorporated in any of the pad liquors.

The fabric was batched on a roll, and within a few minutes was dried on a pin tenter at 130-150 F.

As an untinted control, a length of the scoured multifiber fabric was padded through water only and dried as above.

The fabrics, tinted and untinted, were subjected to the following processing conditions:

1. Not processed, retained as a control.
2. Heat-set in hot air for 18 seconds at 420 F.
3. Crimp-set in an atmosphere of steam for 15 minutes at 30 psig.
4. Can-dried over five cans for a total time of 65 seconds at 230 F. This was to simulate conditions actually somewhat more severe than would be met in slashing.
5. Aged for four hours at 180 F-dry bulb, 170 F-wet bulb, corresponding to about 80 per cent RH. This was intended to simulate what might occur if the tinted fiber were allowed to stand for a considerable time before scouring, without going through any of the above processes.

Several scouring methods were employed.

A wide range of tints was obtained in these tests. To rate differences in depth of shade among the various fibers and dyes, the AATCC Chart for Measuring Transference of Color was selected as the standard. Over 7200 ratings were carried out in the experiments.

Effect on Unprocessed Fabrics. All dyes used were removed from all of the fibers by one or more of the scouring processes. Amido Naphthol Red 6B on cotton, wool, and nylon, and Wool Green S on wool and nylon were removed only with some difficulty.

All of the pigments were more difficult to remove from all of the fibers than were the dyes. Their removal was unsatisfactory in all cases, and most pronouncedly so with Algol Yellow GC.

Effect of Heat-Setting. After this operation, removal of Tartrazine, Amido Naphthol Red 6B and Wool Green S from nylon became somewhat difficult.

Both Acrilan and Orlon Type 42 retained Wool Green S.

Amido Naphthol Red 6B was difficult to remove from Acrilan and to a lesser degree from Orlon.

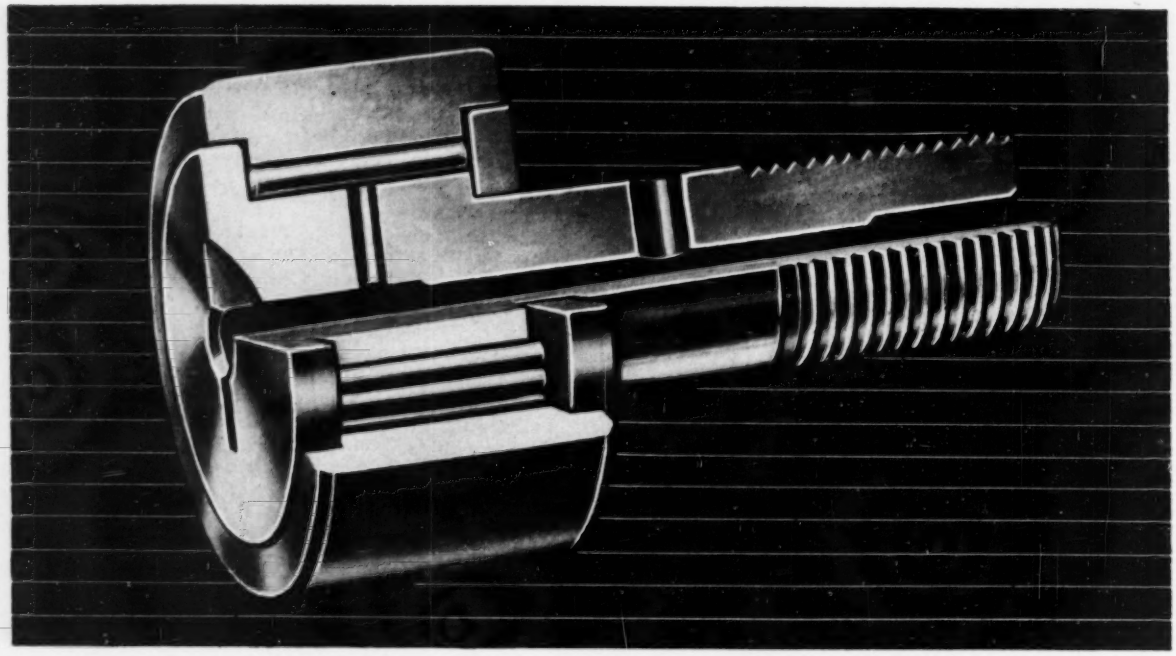
Effect of Crimp-Setting. This was the most serious of the processes evaluated, in its tendency to fix tints. Removal of Amido Naphthol Red 6B and Wool Green S from wool, Vicara, nylon, Acrilan, and Orlon 42 became much more difficult.

Tartrazine was especially difficult to remove from nylon. It left wool, Vicara, and Acrilan heavily stained, regardless of scouring method.

Indigotin became difficult to remove from many of the fibers, and was practically unremovable from Acrilan.

Effect of Can-Drying. Little effect on tint retention by any fiber was evident.

Effect of Aging. Wool Green S became more difficult to remove from



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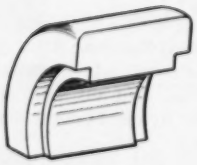
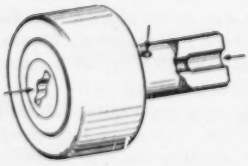


1. Heavy sectioned outer race of hardened and ground high carbon chrome steel assures uniform distribution of high rolling and shock loads while providing high capacity anti-friction performance.

2. Integral stud for cantilever mounting is made of case hardened and ground low carbon nickel molybdenum steel. The tough core provides high strength to withstand high shock loads.



3. Easily relubricated at any one of three points—at either end or through cross hole in stud. Ends accommodate standard drive grease fittings, or may be sealed by the plugs provided.

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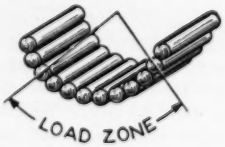
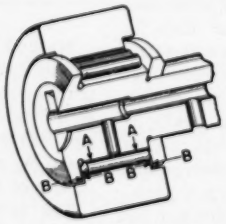
4. Full complement of small diameter rollers—through-hardened, ground and lapped—for maximum radial load capacity.





5. Raceways precision ground for even load distribution (A) and uniform low end play (B) assure long bearing life.

Torrington Cam Followers are precision made throughout. They are available in sizes from ½" to 2¼" O.D. Special surface finishes such as chrome and cadmium plate or oxide black can be provided.

Our Engineering Department will be glad to work with you in adapting these dependable and efficient Cam Followers to your cam-controlled or track-type equipment. Torrington Cam Followers give better service because they're better made.

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wool, Vicara, nylon, Acrilan, and Dynel. Amido Naphthol Red 6B was more tenaciously held by nylon, and to a lesser extent by Vicara.

Effect of Scouring Conditions. The different detergents used were about equally effective. Soap, which was used at a higher concentration than the synthetic detergents, accomplished slightly better removal in a few instances.

Where alkaline, high-temperature scours could be used, they usually produced the best removal of the tint.

"Planned Economy" South American Style

"I know you people have jobs to do and can go about them knowing that if you work at them hard enough you can get some of them done. Here we all want very much to accomplish things but we know that all our efforts are dependent upon the say-so of some Jack In Office.

"Certainly I wish that the several millions of Americans illusioned with glittering promises of Planned Economy could have a dose of our brand for only a few months. If they had it I wager my hopes of Heaven they would become the most rabid rooters for Free Enterprise to be found anywhere. Planned Economy may not be such hell as Sherman said war was, but it is as near it as any thing else I can think of."—*Letter from South America.*

Finishing Glass Decorative Fabrics

By R. F. Caroselli
Owens-Corning Fiberglas Corp.

A PROTECTIVE finish must be applied to glass fabrics following the Coronizing operation, since the abrasion resistance of bare glass is rather poor. Most of the finishes suggested in the past either destroyed one or more of the desirable properties of the fabric, or reduced the ability of the fabric to retain the printing paste applied later.

A satisfactory finish has been found, however, in a combination of a polyacrylate latex emulsion with a Teflon dispersion.

This emulsion is padded onto the fabric, which is then dried and is ready for printing. The Teflon need not be cured, but is held by the latex in the form of minute particles, in a manner similar to that of a pigment.

Finishing After Printing. The first step in the finishing procedure is the curing of the printed goods, whether they have been printed with a water-in-oil or oil-in-water system. This is done at a temperature of 300 F for 3 to 5 minutes, with the goods in an open, flat condition. A frame is not recommended, but if it is necessary to use one, then care must be taken to belly the fabric all the way through the frame to prevent tearing the selvages.

Next, the fabric is padded with a 5 per cent aqueous solution of stearatochromic chloride, to impart washfastness. Pad pressures are adjusted to give a 25 to 30 per cent net pick-up. Care must be taken to prevent bubbles or ripples in the fabric from entering the nip and causing cracks in the goods.

Following the pad, the fabric goes to a cure-box, at 300 F.

For best hand and drape, a soaping for 5 minutes in a rope or open soaper using a mild detergent at 120 F is recommended. Again, caution must be taken at nips to prevent cracking. Nip drives should be avoided whenever possible.

In general, the printing and finishing of glass fabrics do not entail any techniques that are not familiar to printers. The principal problems peculiar to glass are those resulting from its no-stretch property, and the necessity for taking great care not to crack the goods at nips.

Modification of Crease Resistant Finishes With Latexes

Southeastern Section

UREA-FORMALDEHYDE and melamine formaldehyde, widely used as crease resistant finishes on cellulosic fabrics, impart improved recovery from deformation, reduce shrinkage, and improve the fastness of certain dyes. However, they tend to weaken cotton fabrics, especially by reducing their abrasion resistance and tear strength, and cause retention of the chlorine used in laundering.

This investigation was concerned with the possibility of modifying these materials with other agents, particularly certain polymeric latexes.

Method. Three different acrylonitrile-butadiene latexes were mixed in varying proportions with urea-formaldehyde monomer to give a total of 18 different formulations. A cotton chambray was treated with these mixtures to give 20 per cent solids concentration.

The samples were padded, dried under minimum tension at about 212 F, cured at 300 F for 5 minutes, immediately neutralized, and dried.

Results. When all properties are considered, the best ratio of latex/resin is 70/30, on a dry basis. Tear strength, breaking strength, and abrasion resistance improve with increasing latex concentration.

Except for abrasion resistance, the results of all tests are essentially the same after one washing.

In general, the acrylonitrile-butadiene latexes used with U-F resins show a yellowing after the hypochlorite test, but also show an increase in bursting strength.

In an attempt to minimize chlorine retention, several other latexes were tested. Modification of the U-F formulation with a polyacrylic ester solved the problem of yellowing, although strength and abrasion resistance were not quite as high as with acrylonitrile-butadiene.

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Creeping Inflation

By Ringgold Arden

EXCLUSIVE

YOU see some funny things in the newspapers. An Associated Press dispatch from Miami Beach, Florida, on August 31, stated:

> The Brotherhood of Railroad Trainmen told railroads in a resolution Tuesday that they do not need higher rates —they need more business.
>
> Freight rates, said the resolution adopted by the B R T convention, have reached the saturation point.

Textile mills paying freight on coal, cotton, and goods shipped to market will probably agree with the contention that freight rates have just about reached the saturation point. A number of textile concerns came to this conclusion before the last raid on the railroads by the various unions; many large mills are operating fleets of trucks because they are more economical than shipping by rail. Several of these railroad unions are now clamoring for additional wage increases, which would normally necessitate freight rate increases, but we are told by W. P. Kennedy, president of the B. R. T., that this should not be the case. He stated:

> The railroads do not need higher rates. They need new business. The quick rate of increase ambition of rail management signifies a defeatist attitude on its part toward the challenges of competing forms of transportation.
>
> They want more and more money on less and less business. If they turn their total energy to providing fast, convenient and economical service, the industry will profit as never before.

A railroad president could use this quotation almost verbatim in challenging the union demand for constantly higher wages, regardless of railroad operating conditions. Certainly, the unions constantly want more and more money for less and less work, and if these unions would turn their energy to *helping* the railroads provide fast and efficient service, perhaps the industry could profit, but unhappily the unions do not do this but bend their energies to higher wages for less work, and more people put on trains to do nothing. It has only been a few years since these railroad unions were fighting in the United States Congress for a law to limit the length of a freight train to 40 cars, and that certainly would not have helped to provide economical service.

Mr. Kennedy deplores "the quick rate of increase ambition" of the railroad managements, but he and his fellow unionists are filled with quick rate of wage increase ambitions. He criticized the railroads for doing exactly what he and his fellow union leaders have done to force the railroads to ask for higher freight rates.

This freight rate proposition is important to most textile manufacturers who are bulk handlers of goods. Some of the bigger mills operate their own truck fleets, but smaller plants can seldom justify such transportation and have to depend on interstate carriers. When freight rates go up, truck rates shortly go up too. The truck drivers' union is perhaps even more powerful, and certainly more irresponsible, than the railroad unions, and the truck drivers lose no opportunity to raise wages and increase featherbedding.

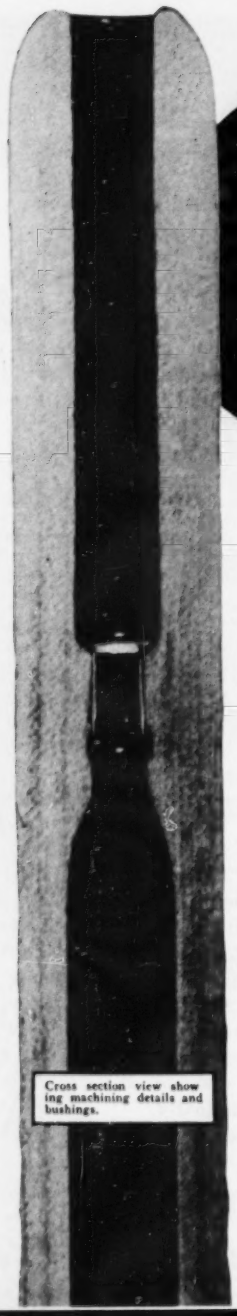
Four weeks after the railroad trainmen issued their resolution, the annual AFL convention was held in Los Angeles, and the theme of its resolutions seemed to be about the same as that of the railroad workers—"We must have higher wages, but our employers must not charge higher prices." The Associated Press dispatch dated September 28 said:

> The AFL says economic conditions are worse than the Eisenhower administration admits but good enough to "warrant substantial wage boosts for workers."

We wonder how many textile mills are finding business good enough to warrant substantial wage boosts for employees. The rubber employees recently won a long and bitter strike for higher wages. They will, as usual, lose money on the strike, because it will take several years to get back what was lost while they were out. They did accomplish one important thing however — they raised the price of tires. Doubtless Mr. Kennedy, the president of the railroad trainmen, would claim that there was no need for raising the price of tires. The tire manufacturers should sell more of them and operate their plants more economically.

The dispatch from the AFL con-

" . . . once a nation sets its feet upon the pathway of inflation, it is always difficult, and frequently impossible, to retrace its steps. It seems perfectly clear that the powerful and influential labor racketeers of this country are firmly determined to keep this nation's feet on that dangerous pathway."



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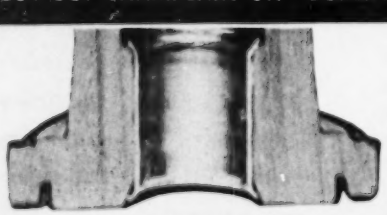

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and Watson & Desmond, P. O. Box 1954, Charlotte, N. C.

One-Bath Process for Dyeing Dacron-Rayon Blends

A new process for dyeing blends of Dacron polyester fiber and rayon employs "Dowicide" A carrier in a single bath, according to The Technical Bulletin, a publication of the Organic Chemicals Dept. of the Du Pont Co.

Other essential features of the process are:

(1) Dacron is dyed with the pH at 6.5 instead of the usual 5.5.

(2) Salt for the direct dyes is not added until the Dacron is dyed.

(3) After dyeing, the material should be scoured for 15 minutes at 120 F with 0.5 g/l Product BCO textile processing agent. (Addition of salt to the scouring bath will probably be necessary for most dyeings.)

vention went on as follows:

> Saying that few unions are negotiating new contracts without wage boosts despite the economic situation, the convention cautioned AFL unions "against being deceived by employers in a basically sound financial position who attempt to maneuver unions into abandoning wage increase efforts on grounds of the general economic downturn.
>
> "Even in a depressed and uncertain economic atmosphere and with a relatively stable cost of living," the convention said, "wage increases are warranted to improve worker living standards and to keep pace with the economy's constantly rising level of productivity."

Certainly this is an astonishing position to be taken by a group of people who consider themselves responsible. This convention represents, or at least claims to represent, less than one-sixth of the working people in the United States, and in its pronouncement what it is really saying to the rest of the United States is, "No matter how depressed you may be, and no matter how uncertain your living conditions are, and in spite of the fact that our cost of living has not gone up, we expect to get more and you will of course get less." This is the typical attitude of a group of monopolists who feel that they possess the economic power to enforce their demands on the rest of the public, even if they lose money doing it.

Several months ago the powerful steel corporations granted a wage increase without even token resistance to the unwarranted demands of people who were already getting wages about 20 to 25% higher than the average for industrial employees. Some of the leaders in the steel industry even expressed satisfaction with getting off so lightly.

The steel industry at that time was operating at about 63% of capacity, and probably Mr. Kennedy would have said that all they needed to do to handily take care of this wage increase was to sell more steel, which apparently they couldn't do, instead of raising the price of steel, which is what they did.

All that textile mills need to do is to sell more goods at a profit, but the textile mills lack the cohesion of the steel, rubber, and automobile plants, and persist in trying to do exactly what Mr. Kennedy advocates, and are losing money doing it.

So long as inflation was driving up the cost of living, the labor union people had a very logical argument for wanting higher wages, but of course the wage increases they requested were far out of proportion to any increase in the cost of living. Now that the cost of living has been stabilized for the time being, the union people are frankly admitting that from now on they expect to keep *all* of the increase in productivity which formerly was passed on to the entire public in the form of lower prices.

That is, if the unionists can have their way—and our Government has permitted their monopolies to become so potent that they probably can have their way—from now on that section of the public which is not associated with some protective cartel can expect to see the people who are constantly raising their wages and, consequently, the cost of goods.

Quite recently, the CIO loosed a blast at the Federal Government for its refusal to establish a minimum wage of $1.25 an hour. The AFL convention issued the following resolutions:

> The AFL has specifically expressed its disappointment in administration opposition to raising the minimum wage, in granting special tax concessions to business interests, in the tragic bungling of our foreign affairs, in the reckless contraction of our armed forces, in the strangling of public housing, in failure to take any positive steps to meet the nation's health needs, in refusal to eliminate any of the unfair provisions of the Taft-Hartley law, and in the apparent satisfaction with stabilization of the economy at present low levels."

That is, the AFL is all for more inflation, and plenty of it, and any attempts on the part of the National Government to check the course of inflation are heartily deplored. The Federal Government has recently had to raise our debt limit by six billion dollars, and it is quite likely that in another six months or so this limit will have to be raised again, because, beginning in 1933, our National Government adopted a policy of inflation as a standard procedure to meet the costs of government, and great groups of people, like those housed in the AFL and the CIO, are demanding that inflation be continued as a national fiscal policy.

Statesmen have observed that once a nation sets its feet upon the pathway of inflation, it is always difficult, and frequently impossible, to retrace its steps. It seems perfectly clear that the powerful and influential labor racketeers of this country are firmly determined to keep this nation's feet on that dangerous pathway.

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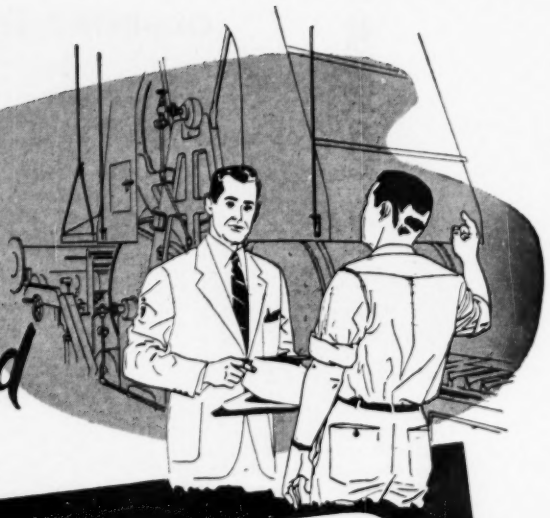

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3-3

HOW OTHER MEN MANAGE

• Letters to Editor • Technical Discussion •
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Write to the Editors!

Readers are invited to make use of this section for further discussion of published articles, or for discussion of problems arising in the plant. Names will not be used without permission. Payment is made for practical articles or for letters containing manufacturing information.

Address: Editor "Textile Industries," 806 Peachtree St., N. E., Atlanta, Ga.

Mill-Made Adapter Fits Customers' Cloth Rolls

EDITOR TEXTILE INDUSTRIES:

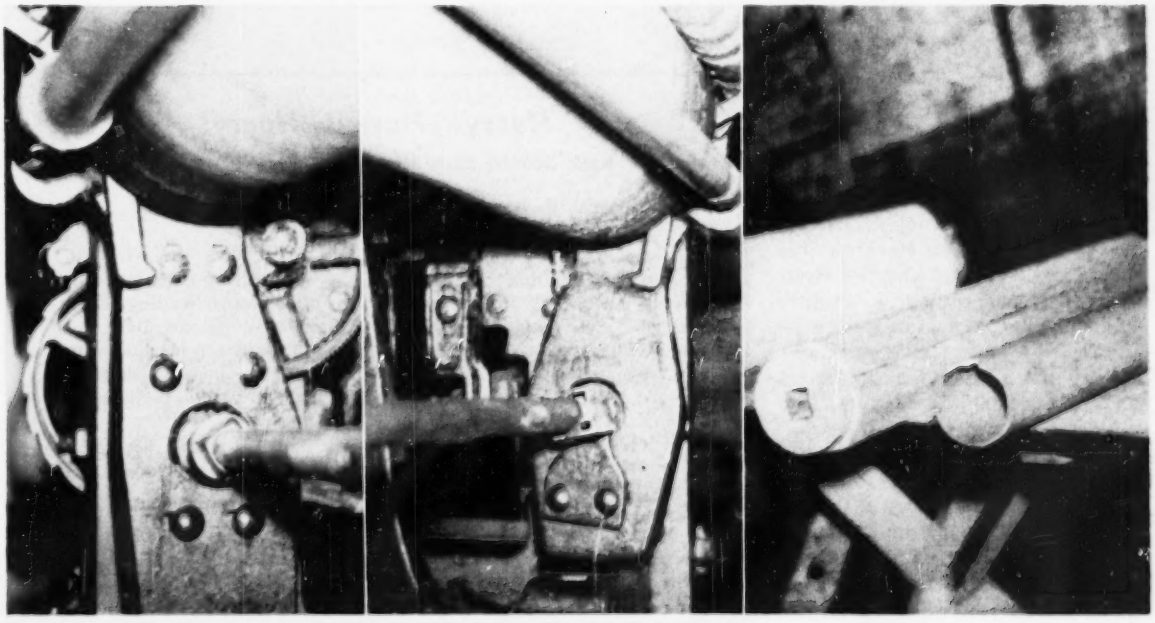
We make a lot of industrial glass fabrics, and in many instances the customer sends his own type of cloth roll because he has a special system of handling the fabric.

For example, one customer ordered a large quantity of scrim cloth and wanted it on a 45" wood roll with a square hole to accommodate the center bar. Our looms are built for a 52" cloth roll, and I had to devise something that would take this roll without altering the looms too much because we switch from one fabric to another in production.

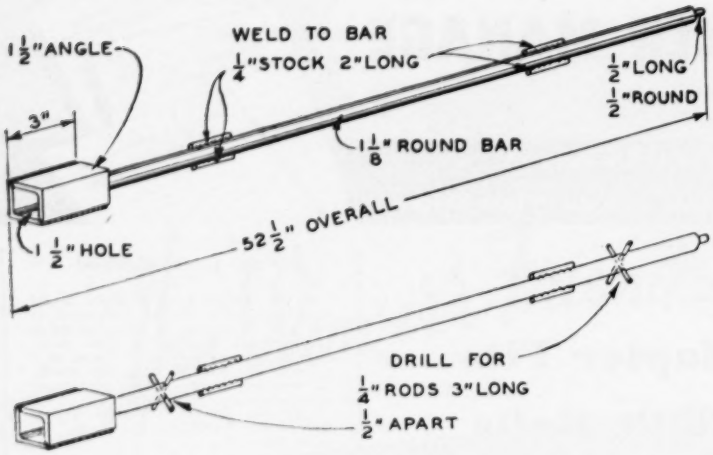
The bar shown in the accompanying photographs solved the problem. The only change made on the loom was a ⅝" hole drilled in the spring square and ½" cut off of the pin end. These changes did not preclude the use of our regular rolls when needed.

Another customer sent to us a paper tube with a 3" hole, whereby a second idea (see details in illustrations on page 180) was used on the same bar. This change did not alter the bar enough to prevent the use of the rolls with square holes.

When paper tubes with a 3" hole are required, the square end bars are used. The difference is that two ¼" holes are drilled through the bar at ½" intervals around the circumference of the bar. Pins are



HOW OTHER MEN MANAGE



driven through the holes and cut off 1½" in length on each side of bar center. The pins are snug enough to hold paper tube, at the same time permit tube to be pulled off of the bar after the cloth is woven. Upon changing to wood rolls the pins are removed from the bar.

When these bars are not in use, they are tagged with the number of the loom they came from and put away until needed again. With this arrangement, regardless of what kind of roll our customer requests for his fabric, we can give it to him. On scrim cloth we have put as much as 925 yards on a roll; our average is about 800 yards. The iron bar is heavy and exerts more resistance to friction take-up, thereby making a hard roll.

The altered bars are simple and economical to make. We used bars that were already available in the mill shop. A few feet of angle iron will fill the need.

CONTRIBUTOR No. 8664

Where to Get Rubber Sleeves for Roving False-Twist Device

EDITOR TEXTILE INDUSTRIES:

We found the article "Reduce Ends Down" by Hugh M. Brown in your magazine for May, 1954, extremely interesting.

In our mill we are spinning long staple nylon, Orlon, Dacron, viscose, and blends of these fibers with wool. We obtain greatest yarn evenness when we keep our roving twist to the minimum, but this has always caused problems at roving.

Our roving cone tension adjustment is extremely critical, and must be kept slightly on the slack side. This means relatively soft bobbins and a tendency for certain positions to develop slackness between the front roll and the flyer, whenever the roving is slightly under weight. With the slack roving tension there is always the danger of drafts breaking down ends and causing them to jump into positions on either side.

Our roving frames are Whitin American-System frames, model G10D, 108 spindles, with 10 x 5 bobbins at 8" space, and a lower front roll diameter of 2". The roving weights run on these machines generally fall between 3.5 grains per yard and 7.5 grains per yard.

We would like very much to know where the rubber sleeves, mentioned in this article, can be obtained. We would like to install them on several positions of our roving frames, to see if they will provide the desired results on the materials which we are currently processing.

If our tests confirm the results obtained by the School of Textiles at Clemson College with no serious complications or disadvantages, we shall make immediate plans to equip all of our roving positions

Hurry! Hurry! Hurry!

Kink Contest Ends Midnight, December 15, 1954

Send your entry now!

$100 will be awarded the winner.

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, December 15, 1954.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously.

Send your contest entry to:

Editor TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.

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with the false twist attachments.

CONTRIBUTOR No. 8716

EDITOR TEXTILE INDUSTRIES:

In reply to your CONTRIBUTOR No. 8716, we do not as yet have anyone making rubber sleeves for roving frame flyers. We are using rubber tubing, which may be purchased from the following companies:

E. H. Sargent & Co., 4647 W. Foster Ave., Chicago 30, Ill. (Rubber tubing, black, pure gum; catalog No. S-73505, inside diameter ½ inch, wall thickness 3/32 inch.)

Phipps and Bird, Inc., Richmond, Va. (Same as above, but called black latex; catalog No. 75-002.)

HOW OTHER MEN MANAGE

We find that one company is using a metal sleeve as shown on page 97 of your May issue, but is placing the rubber tubing inside the metal sleeve and letting it project 0.32 inch above the top of the metal.

HUGH M. BROWN
School of Textiles,
Clemson College

FF Knitters -- Here's How to Make an Improved Hosiery Stand

EDITOR TEXTILE INDUSTRIES:

The idea of pin type hosiery stands is not new, but the stand shown in the accompanying illustration is an improved model that is compact and has a capacity of four times that of the original hosiery classification stand. When used for odd stocking classification in the grey hosiery inspecting departments, it requires only one-fourth of the space used for the same purpose when the older types of stands were employed.

The older design had only six separations on each horizontal rail, and could accommodate only 12 classifications. By increasing the number of pins, and then hanging the odd stockings on each pin, the improved hosiery stands can accommodate 48 classifications and yet require no additional floor space.

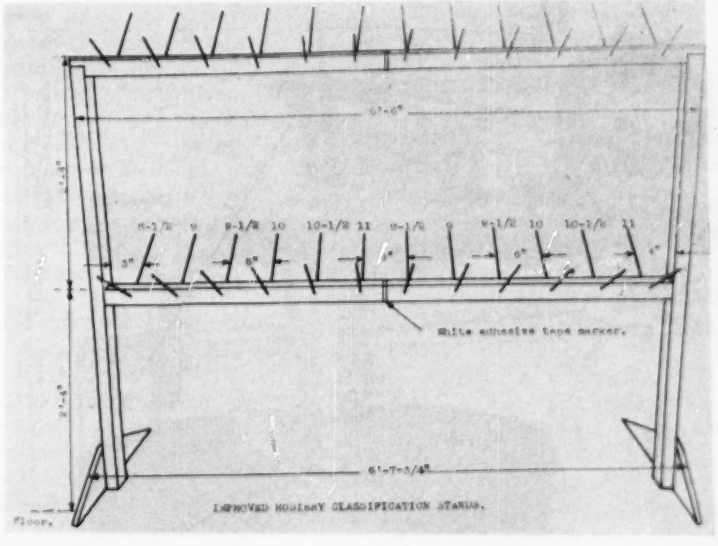
Some of the advantages of pin type hosiery stands are that they can be very easily and cheaply constructed, using plain 2" x 2" pine lumber for the uprights and crosspieces. The pins can be made of maple and should be ½" in diameter by 10" long. The assembled stand should be covered with beaver-suede cloth or other suitable material.

The stockings are usually delivered to the inspectors in trays. After the stockings are inspected, they are placed in wraps or bags in multiples of three or four dozens for preboarding or dyeing. The odd first-quality, and also sub-quality stockings (such as menders, seconds, reseams, and knitter charges) are placed on the classification stands where each pin represents sizes from 8½ through size 11. Each rail holds four ranges of sizes and can accommodate four complete styles. Sub-quality stockings can be accumulated up to the quantity desired without tying. This prevents picks, pulls, and unnecessary labor.

The odd first-quality stockings on the classification stands need never exceed one dozen in any given style and size, as they are used to complete any inspector's wrap or bag that may be short a few stockings when her tray is completely inspected. If no stockings remain for fill-ins, the inspector removes the few odds from the lot and places them on the stand for further use.

The hosiery classification stands are almost a necessity in modern grey hosiery inspection departments, because of their compactness and provision of storage space. Modern inspection machines produce from 200 dozen to 270 dozen pairs of hosiery in eight hours, so storage and handling of odd stockings present a problem unless stands of a similar design are used. The total cost of each hosiery stand is only about $15. There is not much labor involved in making them.

CONTRIBUTOR No. 8653



IMPROVED HOSIERY CLASSIFICATION STANDS.

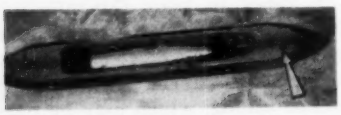
How to Keep Shuttle Free of Fly

EDITOR TEXTILE INDUSTRIES:

Heavy spun glass filling is generally quite hairy and the fibers are so short that they fill up the shuttle eye. After a few quills are run, the edge is jerked out.

To overcome this, we use an open shuttle eye with no tension pads, and with an extra-large thread slot. Less fly is pulled off by the larger thread slot, but what does come off lies in the shuttle and gradually builds up where the eye makes the turn, until it prevents the shuttle from threading.

To keep the shuttle free of fly, we bore a 5/16-inch hole in the bottom of the shuttle (see accompanying photograph). The fly then



falls through the hole as the shuttle travels back and forth. Some of it may go into the cloth, but on these heavy constructions it is easily picked out without damaging the fabric.

CONTRIBUTOR No. 8704

Easily Made Size Mixer Does a Superior Job

EDITOR TEXTILE INDUSTRIES:

Here is a set-up we made for mixing size at our mill. It replaced a geared shaft arrangement we formerly used, which did not do as good a job, and which was constantly being repaired.

We took a 78″ piece of ¾″ shafting, turned the top down to ½″ for 6″, and fitted a 6″ aluminum V-belt pulley on the turned-down end.

Next, three ¾″ bearings were inserted in a 72″ length of 1½″ pipe (inside diameter) — one at the top, one in the center, and the third at the bottom. The top bearing is an angular contact, the center a fiber centering contra shim, and the bottom an Oilite bronze bearing.

We then fitted the ¾″ shafting into the pipe, and put a 6″ high-speed outboard motor propeller on the bottom of it. We put collars on the top and bottom of the shaft, to be sure that there would be no play.

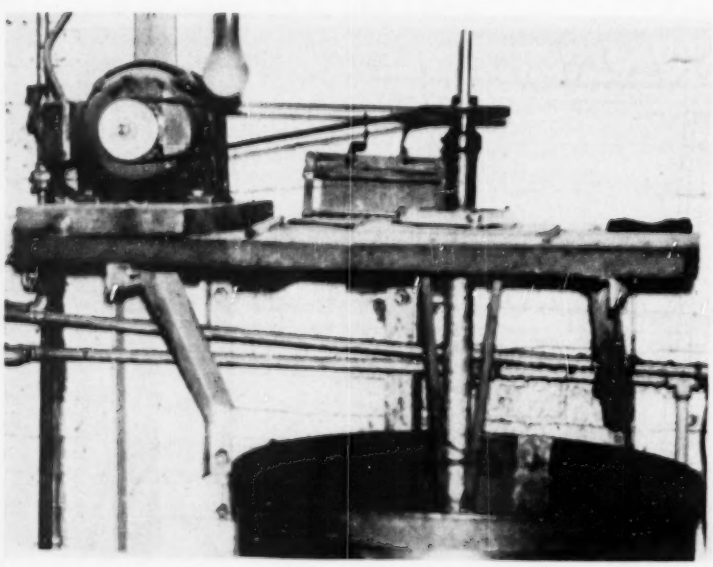
About 2½ feet above the size tank, we erected a good, solid platform, leaving a 2½″ hole directly above the center of the tank. The platform is at such a height that the propeller comes about 1 foot from the bottom of the tank. We then took a 1-hp loom motor and mounted it 4 feet from the center of the hole. A 4″ aluminum V-belt pulley is mounted on the motor.

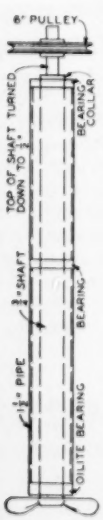
The shaft and pipe were then mounted as shown in the accompanying illustration. The mounting was made by using an old collar which came from an obsolete pipe. The collar has four lips, and is used to fasten the pipe as it comes through the platform.

A second collar was welded to the first, using four pieces of flat stock, like the spokes in a wheel. Three pieces of angle iron were welded to the second collar, running them from the pipe to the edge of the collar, and welding at these two points.

The mounting was fastened to the platform through the four lips of the large collar, using ½″ bolts.

The V-belt from the motor to the shaft has to be crossed, which is not a good practice; however, in this case it is not rubbing against itself, and shows no signs





of wear. The speed of the shaft is about 1200 rpm.

This arrangement has given us trouble-free operation, and does a good job of mixing size.

The parts needed are:

1 — 72" length of 1½" pipe (i.d.)
1 — 78" piece of ¼" shafting
1 — 4" V-belt pulley
1 — 6" V-belt pulley
3 — ¾" bearings
1 — motor, 1 hp
1 — V-belt
1 — 6" high speed outboard motor propeller
1 — 8" collar
3 — 15" pieces of ¾" angle iron
4 — 4" x ½" bolts
2 — ¾" collars

CONTRIBUTOR No. 8746

Precleaning Solves Problem of Blending Small Lots

EDITOR TEXTILE INDUSTRIES:

Our cotton mill is successful in maintaining good quality in producing 17 different counts, plies, and colors in spinning operations. In producing so many different yarns, we run 10-15 different blends and colors of stock in opening, cleaning, and blending operations.

Before the present system of opening and blending was adopted, there was a problem in keeping enough blended cotton in reserve to permit the use of a small number of bales on any one order of yarn. Before the new system was put in operation, one opening and cleaning line operated to feed two pickers, and another line fed one picker. Floor space was insufficient to lay down enough stock for a good blend.

Here's how the present system provides enough blended stock to fulfill small orders on demand without upsetting the production schedule:

The stock is laid down in the opening room, is processed through opening and cleaning, and is then baled. We call this blend "precleaned stock." If the blend is not to be used immediately, it is sent to the warehouse.

Suppose that the mill wants to obtain a quantity of blend No. A-12. It is already partially blended, precleaned, and baled. The bales go back through the blending equipment, by-pass the cleaning equipment, and go to the picker.

Let us further assume that after being baled, No. A-12 is to be raw-stock-dyed. The precleaned stock can go from the bales to raw stock dyeing, if needed immediately, or it can be placed in the warehouse and withdrawn for raw stock dyeing as needed. In any event, the raw-stock-dyed No. A-12 is again opened and sent through the blending equipment, by-passes cleaning, and goes to the picker. No. A-12 may be reblended with white stock, in which case the blend number would be changed.

The precleaning layout accomplishes the following: (1) produces uniform blends from the large numbers of bales accommodated in the additional floor space provided by more efficient arrangement of machinery; (2) permits more efficient cleaning; (3) reduces dyeing costs in that only precleaned stock is dyed; (4) permits more level dyeing; (5) permits use of stock containing more foreign matter without lowering quality standards; (6) prevents separation of dense stock (compressed cotton) and fluffy stock (such as comber noils) through better blending.

Versatility has been increased in that three independent picker lines are operating instead of two. Preblending reduced inventory of picker laps on hand by 150, or 33%. Spinning front roll speed has been increased 7.5% as a result of improvement in quality of stock and consequent reduction in ends down.

Waste extracted at the picker is now almost negligible because waste is taken out at precleaning. Overall waste percentage has increased slightly. It is now possible to concentrate on using the pickers to produce uniform laps instead of attempting to partially clean the stock in this operation.

When the old machinery was in operation in the opener room it was difficult to check the blend for quality until a large part of the stock was in lap form. Under the present system, a press box sample is run through the mill and into finished yarn, and finished yarn and processing and quality tests may be made before the production stock comes into the mill. In view of the diversity of stock used, a quality check is desirable before the stock is processed in spinning.

CONTRIBUTOR No. 8700

Device Measures Unequal Length of Ply Yarn Strands

EDITOR TEXTILE INDUSTRIES:

In twisting heavy yarns, particularly tire cord yarns, unequal lengths of yarn are frequently delivered from the creel. When the yarns are twisted, a corkscrew effect is produced.

When the yarn is tested for tensile strength, the strands do not all break at the same time, so that test results are lower than would be expected.

To investigate the difference in the length of the individual strands comprising the yarn, we improvised a machine similar to the take-up twist tester.

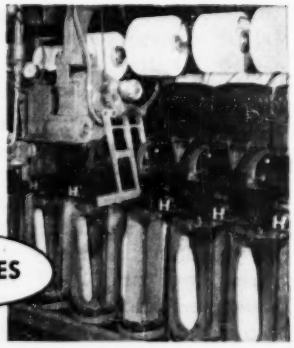
The device (see accompanying sketch) consists of an untwisting assembly A, and three or more take-up assemblies B placed at 20"

BARBER COLMAN

There is a difference in the warps — and in the way they weave

LARGE-PACKAGE AUTOMATIC SPOOLER

The new Barber-Colman Type "D" Spooler is designed to fill an important function in the new practice of using larger packages in the spinning, in the spooling, and in the warping or twisting. Users of spooling are familiar with the fact that a spooler cannot *add* anything to the quality or condition of the yarn, and must be arranged so as to damage or deplete the yarn as little as possible. Barber-Colman Automatic Spoolers have been noted for "air-friction" tension and other favorable features along this line — the new Type "D" machines retain all the proved advantages and have added some new ones.

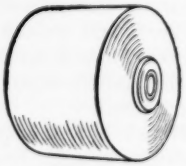


MANY NEW FEATURES

A quick inspection of the new Spooler will reveal: a new type of two-position bobbin holder, a new straight-line action on the cheese holders with built-in brakes, new cleaning devices on the frame and on the traveler, a new device for by-passing a running thread, and many other improvements . . .

YARN IS "CLEANED" AUTOMATICALLY

Barber-Colman Automatic Spoolers include several devices for cleaning the yarn, such as the snick plates which catch gouts, slubs, and wild yarn, and the suction cleaners which pick up lint, loose pieces, light trash, and other imperfections. The result of this is that yarn delivered to the warping is in the best condition that can be achieved and maintained on automatic machinery. *In this way the Spooler makes a valuable contribution to overall economy in the mill.*



TYPE "D" PACKAGE

The new, larger Type "D" cheese can be wound to hold as much as 6½ pounds. In 24s yarn, this will amount to 120,000 yards, or about 2½ times as much as the standard Type "C" cheese.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

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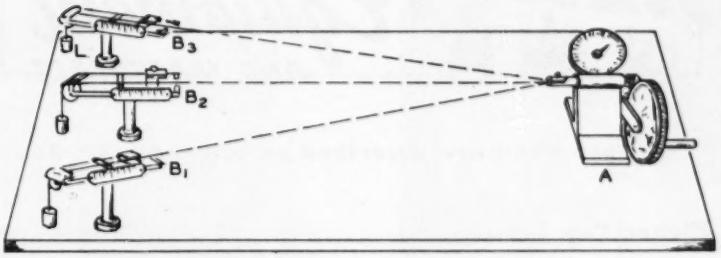
Osaka, Japan

or any convenient distance from A.

The distance to be tested is marked with ink on the yarn; one end is clamped in the grip at A and the other in the central assembly B_2. The yarn is then untwisted sufficiently that the individual strands can be gripped by the clamps in each of the assemblies B, the number of assemblies of course depending on the ply of the yarn.

The yarn is then untwisted, the weights L keeping all the strands at equal tension. The extension is noted in each strand, which gives the difference in lengths of the separate strands delivered to the twister.



CONTRIBUTOR No. 8736

Travelers Easily Removed or Put On With Mill-Made Tool

EDITOR TEXTILE INDUSTRIES:

When spinning frames are run on a small order basis, changing travelers can present quite a problem, both in time lost and in added expense. We made a tool, shown in the accompanying illustrations, which cuts down considerably the time required both for removing and replacing travelers. In addition, it permits removal of travelers without breaking them, which, with frequent changes on certain sizes of travelers, represents quite a saving.

To remove a traveler, the tool is grasped firmly in the right hand around section A, the little finger butting against the curve between A and B. The point of B is slid under the traveler, its underside resting on top of the ring. A levering movement of the hand, depressing the free end and raising the end under the traveler, will remove the traveler without breaking it.

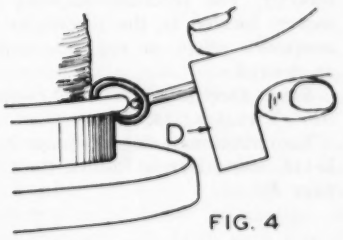
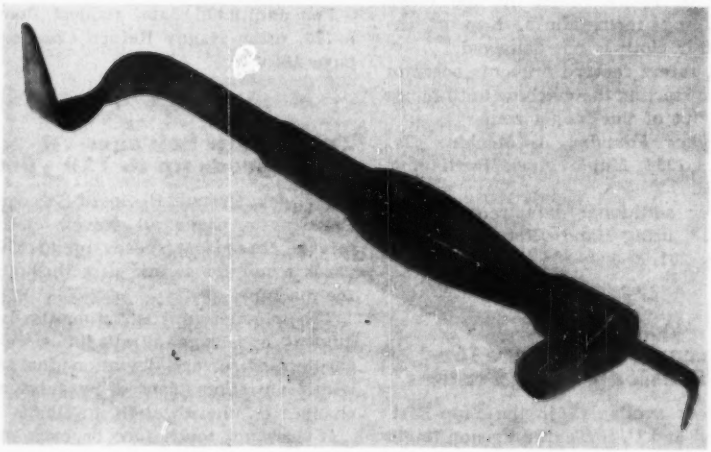


FIG. 4



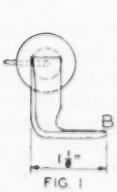


FIG. 1

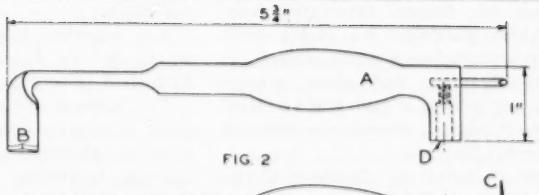


FIG. 2

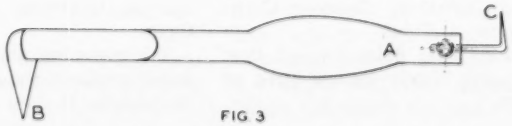


FIG. 3

To position travelers, the tool is reversed and grasped in the right hand, so that the point C is pointing towards the left, with the forefinger butting against the curve between A and D. A traveler is selected from several held in the left hand by slipping point C through it. The near edge of the traveler is placed against the hook C and held in position by the thumb. The traveler is then placed with its outer point on the inner surface of the ring. Projection D is pushed against the ring rail and the tool depressed until the traveler clicks into place.

Projection D is bored out with a sunken screw holding the hook C in position. Slackening the screw allows the hook to be adjusted to different lengths for different frame gauges.

CONTRIBUTOR No. 8705

NEW Equipment AND MATERIALS

Other items are described on pages 85, 87, 89

Picker Lap Tester

(Continued from page 89)

the lap as it passes over the calender rolls. Any lap unevenness causes mechanical displacement of these measuring rollers. These displacements are converted into electrical signals, which in turn are registered on meters and a recorder. Both recorder and meters are calibrated to read ounces-per-yard of lap weight directly. The recorder may be remotely located in the laboratory or overseer's office, or near the picker as desired.

Brush Electronics Co., 3405 Perkins Ave., Cleveland 14, Ohio.

For additional data, request item L-114, using Handy Return Card on page 201.

Automatic Fabric Inspector Saves Time, Eliminates Element of Skill

The Lindly Automatic Fabric Inspector automatically detects defects such as slubs, knots, ends out, etc.; defines the defected area for visual grading of cottons and rayons; and automatically marks the detected defect in woolens, worsteds, and other fabrics which require their removal in subsequent operations. In addition the defects are automatically counted and recorded as to their exact location in the piece of material.

Designed to save time and eliminate the element of skill, the apparatus improves quality and assists in evaluating customer claims.

The basic machine is 50 inches wide; however, deviations as to lesser or greater width machines can be made to suit mill requirements.

An electronic circuit working in conjunction with micrometer-set detector fingers automatically locates the projecting defect and marks it. Duplicate mechanical parts and electronic circuits simplify the operation and cut maintenance to a minimum. Simple and quick adjustments can be made to detect defects from .002 of an inch to 3/16 of an inch.

Lindly Instrument & Machine Corp., 248 Herricks Road, Mineola, L. I., N. Y.

For additional data, request item L-101, using Handy Return Card on page 201.

Clean Revolving Type Clearers Faster with this Machine

Now on the market is a clearer roll cleaning machine that makes it possible for spinners to do a better job of cleaning revolving type clearers in a much shorter time. If desired, spinners could be relieved of this cleaning task and one operative made responsible for clearer roll cleaning.

Mounted on anti-friction casters, the machine is light in weight and can be easily rolled up and down spinning room alleys. Nap of the clearer cloth is not damaged.

A safety feature prevents operator from starting the machine until hands are out of the danger zone.

Sykes Foundry & Machine Co., Inc., 1234 Maple Ave., Burlington, N. C.

For additional data, request item L-113, using Handy Return Card on page 201.

Extra Hard Fingers for Tension Finger Frames

Now available for the Sipp-Eastwood and U. S. Textile tension finger frames are fingers fabricated from Heanium—hardness 9.5 Moh's scale—and attached to a metal section.

The Heanium and metal attachment are sold as a unit and installed on the frames in the same manner as the metal fingers.

Heany Industrial Ceramic Corp., New Haven 3, Conn.

For additional data, request item L-109, using Handy Return Card on page 201.

Terrell Type M roving bobbin stripper.

Strips Cotton, Synthetics, or Wool Roving from Bobbins

Pictured above is the type M roving bobbin cleaning machine described on page 100 of TEXTILE INDUSTRIES for November, 1954. It works equally well on cotton, synthetics, or wool, and bobbins are not damaged.

Note operative taking bobbins to be cleaned from large hopper and placing them on the feed table. Waste is deposited into a container, and cleaned bobbins are ejected into the roving box at right.

The Terrell Machine Co., 3000 S. Boulevard, Charlotte, N. C.

For additional data, request item L-108, using Handy Return Card on page 201.

Trim Cloth Selvages at Speeds up to 150 ypm

The new Hermas Hi-Speed Selvage Trimmer removes all woven cloth selvage threads at speeds up to 150 yards a minute at one pass through the machine.

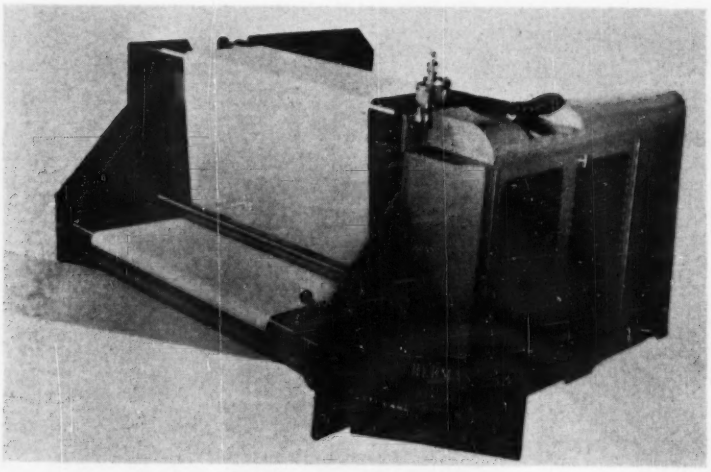
The trimmer unit is automatically guided to selvage at all times, regardless of selvage deviation due to width variations caused by tension changes or uneven cloth guiding.

It does not touch face or back of the cloth.

The machine takes rolls of cloth up to 36" in diameter and can be furnished in any desired width.

The Hermas loop clipping attachment converts box loom loops to hanging threads and enables the selvage trimming unit to remove them.

The trimming unit has its own integral suction, exhaust, and collection component. It does not need expen-



Hermas Hi-Speed Selvage Trimmer.

sive fan, motor, tinwork, or dust collector.

The trimmer unit is available as single or double units for mounting on many existing machines or incorporated in a complete selvage trimming machine with take-up unit. The selvage trimming machines can be furnished with single or double trimming units on one or both selvages.

Hermas Machine Co., Warburton Ave., Hawthorne, N. J.

For additional data, request item L-129, using Handy Return Card on page 201.

Photocopying Machine Cuts Cost of Reproducing Weave Patterns

The Copease Duplex photocopying machine cuts the cost of reproducing weave patterns or designs, providing substantial savings in time and labor. Exact, clear copies of the original are produced with the device.

The machine reproduces black-on-white duplicates in a matter of seconds by a combined operation of developing and printing. Copies are permanent, fadeproof, and can be made on paper of any weight. Exposure, development, and printing are all performed with one machine without special lighting, darkroom, or extra accessories.

About the size of a typewriter, the machine may be operated from either a sitting or standing position.

Copease Corp., 270 Park Ave., New York, N. Y.

For additional data, request item L-110, using Handy Return Card on page 201.

Steam Trap Virtually Eliminates Maintenance

A solid stainless steel disc, practically indestructible, is the **only** moving part of the new Sarco Thermodynamic steam trap, providing simple, maintenance-free design.

Condensate, air, and steam act directly on the disc valve which opens to discharge condensate and air—snaps shut to contain steam. There are no mechanical devices required to operate the valve.

Other advantages: small size, easy installation, not affected by shock or vibration, immunity to corrosive elements with all wearing parts stainless steel, same valve head and seat for all pressures to 600 psi and temperatures to 950 F.

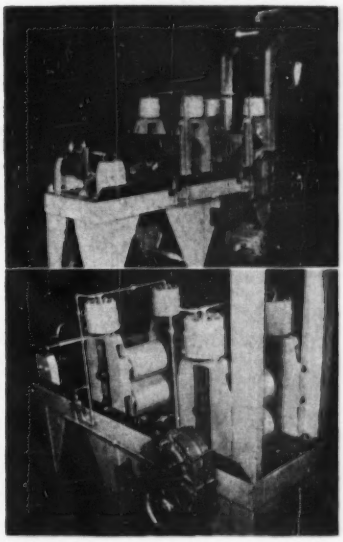
Sarco Co., Inc., Empire State Bldg., New York 1, N. Y.

For additional data, request item L-410, using Handy Return Card on page 201.

Soap Content of Cloth Accurately Controlled with this Machine

A more efficient version of the Hunter cloth soaping machine is available.

Employing a new Rotochamber squeeze roll pneumatic pressure system, the machine provides the solution for the two major problems involved in cloth soaping techniques through the extreme accuracy of its control of the soap content of the cloth, and its maintenance of a uniform soap content from lot to lot. It is claimed that the machine completely eliminates the labor formerly



Two views of the Hunter cloth soaping machine. Note squeeze rolls (lower).

required in manual soaping operations, while reducing soap costs by as much as one-half.

One of the chief reasons given for the reduction in soap costs is the utilization of small capacity tanks which provide faster circulation of the soap and cut down soap loss at the end of a run. Also a counterflow is said to keep the soap supply free of impurities on up to the last squeeze, resulting in extremely bright whites and unusually vivid colors.

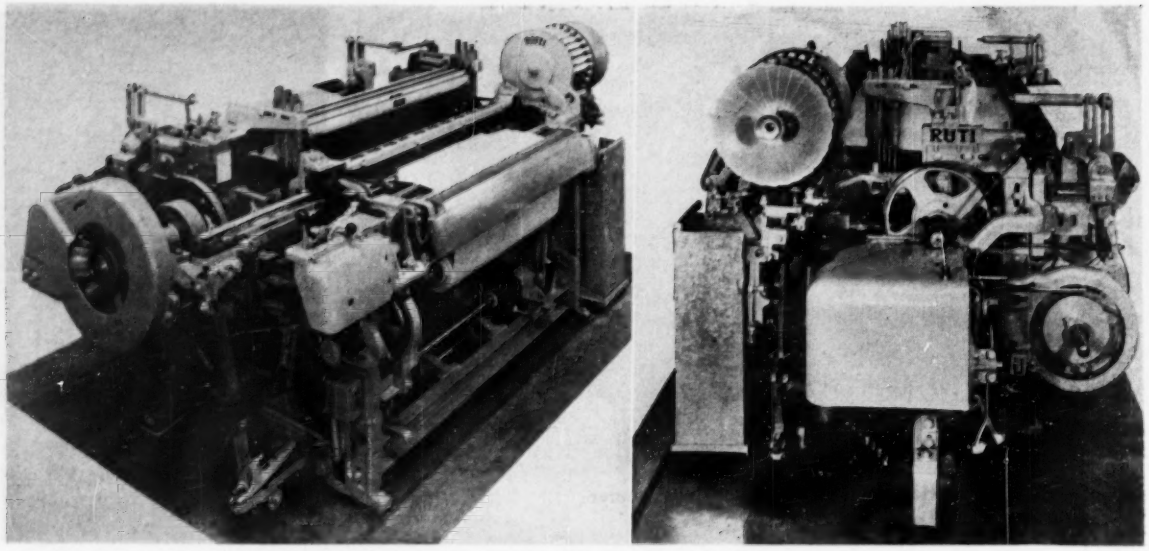
In order to cut down maintenance and make cleaning operations easier and faster, stainless steel has been used throughout the machine. Specially designed stainless steel splash guards, located at each squeezer along the edge of the tanks, deflect any splash back into the tanks, keeping the surrounding floor area dry.

James Hunter Machine Co., North Adams, Mass.

For additional data, request item L-104, using Handy Return Card on page 201.

Uniformity Assured in Presetting Nylon Hose

Paramount Textile Machinery Company's Presetter Junior and Universal Presetter are now being equipped with the new 077 electronic temperature controller made by Minneapolis - Honeywell Regulator Company, so that the temperature inside the cabinet can be held within



Overall and end views of the Ruti B-type high-speed automatic loom.

one or two degrees Fahrenheit above or below the desired processing temperature.

A small wire sensing element inside the presetting cabinet acts as a thermometer. The unit operates on the principle that resistance of this sensing element varies in proportion to its temperature. When the temperature reaches a certain number of degrees above or below the control point an electronic relay notes the change and automatically reduces or increases the rate of steam flow.

Paramount Textile Machinery Co., 131 S. Wabash Ave., Chicago 3, Ill.

For additional data, request item L-126, using Handy Return Card on page 201.

High Speed Loom Has "Flexible Shuttle," Other Interesting Features

The Ruti high speed loom, Type BANLXK, reduces the cost of weaving by producing more cloth per loom per operator. (During the recent Southern Textile Exposition, a 44" model of one of these looms was weaving cotton broadcloth at about 250 picks per minute.)

These high speeds are due to improvements of certain basic functions of the loom and include the "flexible shuttle" which allows the bobbin change to take place safely at these high speeds. There are no spring clips in the shuttle and no rings on the bobbin. Less pressure of the hammer to change a bobbin is required, and the shuttle allows the bobbin to be held much more securely because the whole bobbin butt is held tight.

This loom also has the Ruti loose reed feature which works on the principle of the reed swinging out towards the back if the shuttle should get stuck in the shed and the loom stops immediately without bang-off. This, together with the reduced shuttle weight, permits the pick to be set very softly, thus holding wear and tear to the minimum.

Versatility of this loom facilitates adaptability of it to varied production programs.

The Ruti automatic loom, Type BANLXR, is equipped with the side cam motion and is especially suited for weaving fine denier filament fabrics but will handle fine cotton goods equally well. This loom has a "pick-finder" which reverses the harnesses into open shed position automatically, thus eliminating the necessity for having to turn the loom back by hand. It also utilizes the flexible shuttle principle. (At the Southern Textile Exposition a 64" loom of this type was weaving a 58" wide rayon taffeta lining at 184 picks per minute —8110 total ends, 138 ends and 76 picks per inch, 3.5 oz per sq yd.) Another feature of this loom is a harness levelling motion which is foot operated.

The Ruti high speed loom, Type BAL, has the conventional loom arch or top rail and is much less expensive than the two models described above, yet it produces high quality fabrics at high speeds. (At the Show a 44" model was operating at 210 ppm.) Light to medium heavy fabrics can be made on this loom. Low maintenance and accessibility are interesting features.

Ruti Machinery Works Ltd., Ruti (Zurich) Switzerland.

For additional data, request item L-124, using Handy Return Card on page 201.

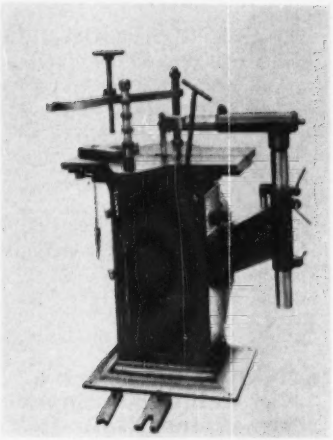
40-Ton Multi-Purpose Calender; New Tipping and Inlay

The McKiernan-Terry multi-purpose calender, a 75-ton model of which was previously announced in TEXTILE INDUSTRIES, can now be purchased in a 40-ton model. Just change the rolls and gearing of this machine to convert it from one service to another—friction, embossing, Schreiner.

Improved apparatus for tipping and inlay are available. For inlay effects, contact rolls are furnished for specified cloth widths, preventing waste of ink on engraved cylinders. Simple, accurate adjustments provide fine control of inking films. Furnisher and contact rolls are mounted independently. Color pan can be removed without affecting adjustments. Cloth is smoothly supported for accurate, uniform tipped effects. There is no wasteful, destructive inking of filled roll.

McKiernan-Terry Corp., Textile Machinery Div., Dover, N. J.

For additional data, request item L-119, using Handy Return Card on page 201.



Sunray Keyseater No. 1000.

Cut Straight or Tapered Keyways with this Machine

Straight or tapered keyways ⅛" to 1" can be cut on the Sunray Keyseater No. 1000 which was recently placed on the market. Universal centering, no bushings or bushing holders required, rugged steel construction, and table type feed are other features of this machine.

Keyways are cut by a broach which gives the advantage of having several teeth cutting at once as well as eliminating the tendency of the cutter to dig into the work.

Sunray Co., P. O. Box 445, Spartanburg, S. C.

For additional data, request item L-411, using Handy Return Card on page 201.

Install-It-Yourself Pneumatic Tubes Speed In-Plant Communications

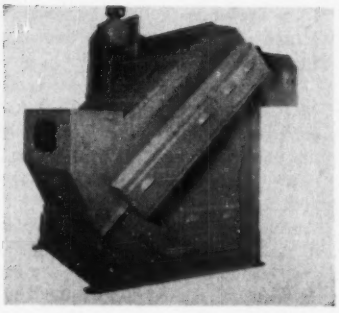
A prefabricated, two-station pneumatic tube system, in kit form, can be installed in any type of building by regular maintenance personnel.

The package Airtube system will produce faster, more economical and convenient paperwork transit in industrial plants, offices, warehouses, laboratories, etc. It can be installed in a variety of configurations to connect points on either the same or different floor levels.

Messages and other paperwork are moved through the tubes in air-propelled carriers at a speed of 20 feet per second. Thus deliveries are made within a few seconds after dispatching at any time of day or night and without diverting personnel from their normal work or relying on fixed messenger schedules. Experience with pneumatic tubes in all types of buildings has shown that many man-hours are saved daily.

Lamson Corp., Syracuse, N. Y.

For additional data, request item L-412, using Handy Return Card on page 201.



The Cen-Tennial Aerator.

Another Acrylic Fiber

Commercial production of another polyacrylonitrile fiber has been announced. Called "Pan" (derived by the contraction of the three letters P, A, and N from the chemical name of the raw material—polyacrylonitrile), it is produced in filament and staple forms.

Fabrics made from filament-type Pan are reported to feel like silk, while those made of staple-type Pan are said to possess the most wool-like character of all chemical fibers.

This fiber is boil- and ironing-proof and can be dry cleaned without worry. The lasting warmth-strength is good—it can be exposed for a long time to temperatures up to 130° without suffering materially in strength. Exceptionally resistant to acids up to medium concentrations, its constancy is limited against alkalis.

Other properties of Pan are: low specific weight (1.16); easy washability; high swelling strength and as a result high warmth-retention of textiles manufactured from it; the highest light, ultraviolet-, and weather resistance; most extensive decay resistance; insect constancy inclusive of that against termites.

Cassella Farbwerke Mainkur AG, West Germany.

For additional data, request item L-601, using Handy Return Card on page 201.

NEW Equipment AND MATERIALS

Textile Aerator Provides Blooming Action, Removes Light Matter

The Cen-Tennial Aerator, when used following the blending feeder, has excellent cleaning characteristics. The stock is well prepared for the Cen-Tennial Fiber Opener by the blooming action of the Aerator.

When used following the Cen-Tennial Fiber Opener, it removes any residual leaf or other light matter. There is no stringing or roping of stock.

Sides of the equipment are formed in one piece, and all corners are smoothly welded. The frames which support the bearing mountings are reinforced with gussets for added strength.

Cen-Tennial Cotton Gin Co., Columbus, Ga.

For additional data, request item L-122, using Handy Return Card on page 201.

Multi-Purpose Abrasion Tester

A feature of the Frank abrasion-resistance tester No. 666 is that the sample of material being abraded by it is uniformly worn away over the whole of the treated surface. Also, each of the factors affecting abrasion, such as velocity and pressure of abrasion, type of abrasive, and tension of cloth sample, can be adjusted independently in this instrument; thus it is possible to study the influence of individual factors while the others remain constant.

Moist and wet abrasion tests using water or other liquids can be made with special attachments available for this apparatus. Also, abrasion of edges or yarn can be carried out. By stopping the movement of one part, either the abrasion plate or test head, abrasion in warp or filling direction can be determined.

The tester is designed so that particles removed from specimens by abrasion can be removed by suction or permitted to remain on the specimen as desired.

Charles Frank Inc., Weinheim-Birkenau, Germany.

For additional data, request item L-402, using Handy Return Card on page 201.

Lightweight Roll Picker Is Easier to Use

A new drafting roll picker—the 12P Series—for removal of lint and fly from spinning and roving frames is compactly constructed and weighs only 11 ounces—hence is 30% lighter than previous models. It makes handling easier and reduces operator fatigue.

The new roll picker is available with either straight handle or pistol grip, and has a new design which features presealed bearings that require no lubrication. Adjustable ports minimize exhaust noise, and direct the air away from the work. A built-in speed regulator with simple screw driver adjustment controls the rotation speed, and quick-change collets provide rapid rod replacement.

The tool is supplied with true-running rods that do not vibrate, and have no whip to cause reduction of tool speed. They are available in five different lengths between 6 and 14 inches.

Keller Tool Co., Grand Haven, Mich.

For additional data, request item L-130, using Handy Return Card on page 201.

SERVING THE TEXTILE INDUSTRY FROM MAINE TO TEXAS

Only a SPECIALIST

Can do it RIGHT every time

That's why you benefit from

Jenkins' QUALIFIED ENGINEERS

Experience has proved that only a specialist can do it right every time, and there's never a time when doing a job over isn't more expensive than doing it right the first time. Every Jenkins' Dynamically balanced cylinder and card screen is made under the supervision of qualified engineers to eliminate costly down-time for removal after installation. This being *right* every time adds up to savings for you in time, in quality production and in lower operating costs.

You can benefit from Jenkins' qualified engineering right now—because you pay no more for these precision-made products.

JENKINS METAL SHOPS, INC., GASTONIA, N. C.

QUALIFIED ENGINEERING

40 YEARS CONTINUOUS SERVICE TO THE TEXTILE INDUSTRY

Individual Card Drive Has Grinder-Stripper Attachment Built-In

Outstanding advantages of the Precision individual card drive are:

(1) Grinder and stripper attachment is built-in;

(2) Fits into space taken up by present loose and tight pulley;

(3) No brackets or connections to card frame;

(4) No noisy gears;

(5) Rugged 1½ hp standard motor —controls optional;

(6) Soft, easy starts—Warner electric clutch and controls;

(7) No lubrication or noise—U. S. Rubber timing belt.

Precision Gear and Machine Co., 2001 N. Tryon St., Charlotte, N. C.

For additional data, request item L-121, using Handy Return Card on page 201.

Instrument Measures Single-Fiber Linear Density

The GFB-DP Vibrascope is a research or production instrument measuring single-fiber linear density (or denier) with extreme ease and accuracy by vibrating the weighted fiber at constant frequency. Provided with special electrical means for handling and clamping the specimen, the unskilled operator may obtain linear density (and subsequently average cross-sectional area) on a large, direct-reading, linear, vernier dial in about one minute.

Design features include: Non-slip clamps of special design; easy loading device with foot or knee switch control; linear dial avoids tedious calculations or measurements; minimum handling of specimens; non-corrosive materials throughout; reliable calibration; easy-to-read large dial with vernier; constant frequency design lowers cost of instrument greatly; optical system simplified for

operator's ease and comfort.

G. F. Bush Associates, Box 175, Princeton, N. J.

For additional data, request item L-128, using Handy Return Card on page 201.

Use Industrial Television for Quality Control

The Kay Lab television camera system combines moderate cost with system dependability and simple installation. Employing only three basic units—the camera, camera control, and synchronizer-monitor—the system provides signals of commercial quality with such sensitivity that no special lighting is required.

Some industrial uses for this equipment include: Checking hazardous operations and experiments at a safe distance; plant protection systems; quality control; stockroom supervision, parts handling, and traffic problems; and time and cost studies.

Kalbfell Laboratories, Inc., 1090 Morena Blvd., San Diego 10, Calif.

For additional data, request item L-409, using Handy Return Card on page 201.

High Draft System Has No Aprons

The Balmes high draft system, special features of which are its flexibility and the fact that no aprons are utilized, is being offered as a change-over unit for any existing spinning machine by McGlynn Hays Industries, Inc., licensee of American Balmes Corp.

Its simplicity affords a unit that is easy to handle, clean, and maintain, and once installed it does not require replacement of any parts.

The close fiber control resulting from use of the special condensing control roll and the self-threading front condenser permits obtaining yarns of superior evenness and strength from ¾" fibers up to 4' staple length. (At the recent Southern Textile Exposition a frame equipped with this draft system was spinning 50s yarn from 1.60 hank roving double with draft of 65 on 1⅛" cotton. On another machine 30s yarn was being made from 1.15 hank roving double, draft 45, using 1-1/32" cotton.) The unit will also produce good quality yarns from single roving.

A further feature of this system is the low top roll pressures required. (Both of the demonstration machines mentioned previously were operating with only 11 lb on the front top roll and total of but 30 lb on the combined top rolls.) Result is substantially longer life of parts and less power required.

According to this licensee, there are approximately three million spindles in operation with this draft system today in England, Spain, France, and other European countries—so the system itself is not new.

McGlynn Hays Industries, Inc., Textile Machinery Div., 71 Rutgers St., Belleville 9, N. J.

For additional data, request item L-115, using Handy Return Card on page 201.

Lap Tester Built for Lab and Picker Room Use

The Precision Model 22 Lap Tester accurately indicates weight variation yard for yard throughout the entire length of a lap taken from a picker.

The end of the lap is fed through the instrument and cut off at a predetermined length by means of an electrically controlled geared timing mechanism. Length of lap is then weighed on an ultra-sensitive Toledo Speedweight scale. Pointer on the scale is so adjusted that it will indicate the weight greater or the weight less than a predetermined "standard" weight.

Some of the other features of this machine are:

Not only is the scale sensitive and accurate for laboratory use; it is also simple and rigid for use in the picker room. A wide range of "standard" weights is provided by the scale.

Visual inspection for uniformity of lap and condition of selvage can be made—as end of lap passes through rolls onto scale, it is illuminated by fluorescent lamp that permits visual detection of any thin or heavy places in lap.

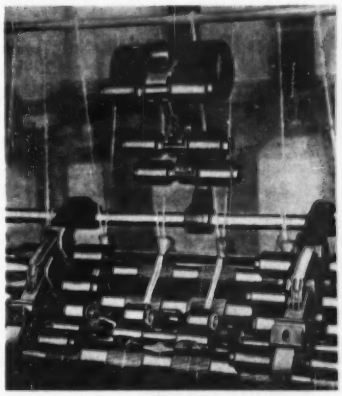
Precision Gear and Machine Co., 2001 N. Tryon St., Charlotte, N. C.

For additional data, request item L-120, using Handy Return Card on page 201.

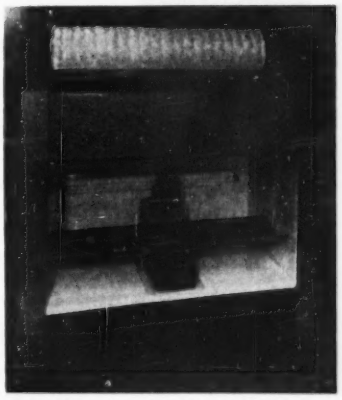
Portable Drum Dumper

A new portable semi-automatic drum dumper for mechanically emptying drums or barrels into vats or

NEW Equipment AND MATERIALS



Balmes high draft system (McGlynn Hays).



Precision Model 22 Lap Tester.

Gifford-Wood drum dumper.

other high walled vessels avoids manual lifting, speeds drum dumping, eliminates shrinkage, and provides dust-free emptying.

In operation, a drum is clamped to the "gig" of the dumper, the gig rises above the vessel, upends and empties the drum, and returns for a new load.

The drum dumper is available to accommodate any size drum and to discharge at any height.

Gifford-Wood Co., Hudson, N. Y.

For additional data, request item L-413, using Handy Return Card on page 201.

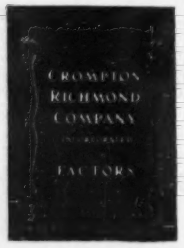
For Neater Packages at Cloth Inspection

The Sykes air guide for cloth inspecting machines guides the fabric onto the wind-up so that an exceptionally neat package is formed. Low initial cost and virtually no maintenance required are principal features of this pneumatically operated device which can be quickly and easily installed on new or existing cloth inspection machines.

A detector finger is located at a point above the operator's head to contact the right selvage of the fabric as it moves from the roll being unwound for inspection down over the inspection table and onto the wind-up. When the fabric shifts to the right of its proper path, the detector finger causes the air valve to open and raise an overhead bar (pivoted at the left) over which the fabric travels, shifting the cloth to the left and thus straightening it so that the cloth roll ends are neat and smooth.

Sykes Foundry & Machine Co., Inc., 1234 Maple Ave., Burlington, N. C.

For additional data, request item L-112, using Handy Return Card on page 201.



The Human Factor

Serenity In Finance

If you talked to a business man Factored by Crompton, he would tell you of its advantages in very few words:

"I have no receivables system or books. I bill all my customers and turn those accounts over to Crompton. I get the immediate cash. I am finished with the credit risk and have no obligations to collect those receivables. Both have become the sole obligation of Crompton. Instead of waiting an average of 45 days for my money, I get it immediately. Since my volume is $100,000 a month, I have the use of that money well in advance. It is like having an additional $100,000 in my business. I discount all my payables and take advantage of all anticipation when allowed. I feel that this sum, plus what I save in bookkeeping, more than covers my factoring charges. And my mind is always at peace, because I don't have to worry when receivables money will come in—it's always in as soon as I ship."

Representatives:
VON D. OEHMIG, Green Island Hills, Columbus, Ga. • PERCY I. PAYNE, JR., P. O. Box 1295, High Point, N. C.

CROMPTON-RICHMOND CO., INC.

1071 Avenue of the Americas, New York 18, N. Y.

Versatile Strength Tester

For accurate testing of the strength of yarn, thread, web, paper, plastic foils, and thin wires is the Frank strength tester No. 645. Strength maximum is 5, 35, 50, 100 kg.

Some of the construction features of this instrument are: Inclination scale with two measuring ranges, 1/1 and 1/5 load, with drag pointer for maximum indication; accuracy—plus or minus 1% of 1/10 of each measuring range upwards and in the first tenth of the measuring range plus or minus 1 division; testing length, 50 500 mm; stroke, 300 mm; electro mechanical drive with infinitely variable speed transmission of 5-1000 mm/min.; return stroke, 3 times accelerated; tension scale switches off automatically when sample breaks.

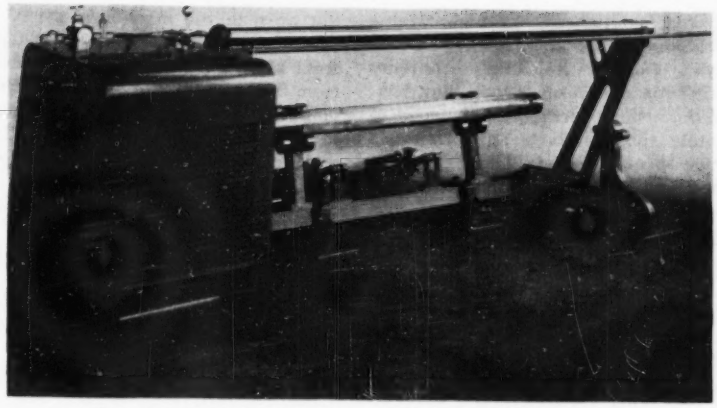
Charles Frank Inc., Weinheim-Birkenau, Germany.

For additional data, request item L-403, using Handy Return Card on page 201.

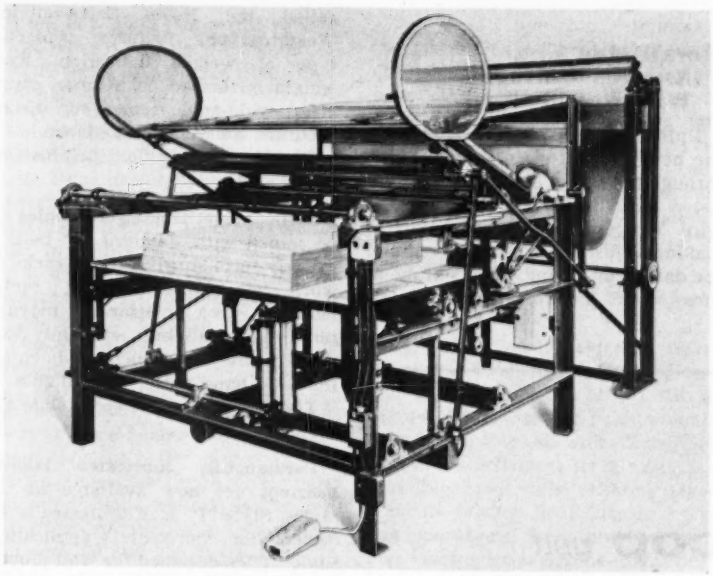
Wood Floor Treatment Tailored to Specific Mill Requirements

A "personalized" wood floor treatment service is offered in the following successive phases:

(1) Analyze the floors to determine condition and build a prime to properly fill the wood; also analyze greases, oils, and humidifier fluids to determine if any of these have a



Warp Compressing Machine Co.'s Model MTS beamer.



Cloth folder for heavy fabrics by Hall & Jansson.

detrimental effect on floor finishes.

(2) Teach mill personnel how to properly sand and prepare wood for priming.

(3) Teach mill personnel to properly apply finish coat which has been made to meet the requirements of each department.

(4) Assure low-cost floor maintenance.

(5) Have technician inspect floors every 30 days and submit to mill a written report of his findings.

There is no charge for the analysis of the floors, greases, oils, and humidifier fluid; for the floor maintenance plan, supervision, and materials, only the cost of materials.

Allied Producers & Supply Co., P. O. Box 367, Athens, Ga.

For additional data, request item L-407, using Handy Return Card on page 201.

V-Belt Does Not Leave Its Centerline on this V-S Drive

A stepless speed variator that is simple, positive, flexible, and offers a wide range as well is the ICOR Vari-O-Matic or Vari-O-Trol. Unique in its compactness and ease of operation, this drive provides an economical and broadly applicable means of controlling rpm.

Automatic adjustment according to belt tension is supplied by the Vari-O-Matic, while external speed control is obtained with the Vari-O-Trol. The latter is adjusted to the desired diameter by turning a handwheel.

Design of the pulleys provides a control device that keeps both halves of each pulley positively, continuously, and exactly centered with the belt centerline. Both the control device and its bearings are entirely free of load or stress during pulley operation. Automatic tension on V-belt keeps it free of torsional stress.

Gubelin International Corp., 35 West 53rd St., New York 19, N. Y.

For additional data, request item L-602, using Handy Return Card on page 201.

Beamer Cuts Time Needed to Beam Down in Woolen and Worsted Mills

The Model MTS four-speed, motor-driven beamer with pneumatic warp compressor has been developed for woolen and worsted mill application.

The compact four-speed motor drive allows the operator to maintain the speed of the beam from start to finish. A substantial reduction in the time required to beam down is provided.

The pneumatic cylinders insure a uniform pressure across the full width of the beam and an evenly wound beam throughout.

Warp Compressing Machine Co., Worcester, Mass.

For additional data, request item L-106, using Handy Return Card on page 201.

Heavy Fabrics Are Easily Handled On this Cloth Folding Machine

A completely new cloth folder having a movable upper clamping member and solidly positioned table for handling corduroys and other heavy fabrics has recently been put on the market.

The table is lifted by a large air cylinder and positioned by means of Micro switches that may be adjusted for various thicknesses of material.

The goods may be removed from underneath the jaws to a pallet while the folding blade continues to reciprocate. A foot-operated Micro switch raises the table again to folding position as soon as the operator has removed the previously folded batch.

Hall & Jansson Co., 177 Highland St., Worcester, Mass.

For additional data, request item L-105, using Handy Return Card on page 201.

New Fiber Blends Readily, Is Easily Processed, Dyed and Finished

Commercial production of a new man-made fiber called "Arnel" has been announced. Developed under the laboratory name of X-100, it was officially introduced as a fiber spun from cellulose triacetate.

The physical and chemical nature of this material results in a fiber highly resistant to moisture, heat, and chemical degradation. Its physical characteristics and ease of dyeing and finishing make it suitable for a wide variety of textile applications, especially the creation of wash-and-wear fabrics.

Specific mill advantages are:

(1) Arnel can be readily blended with other fibers—natural or man-made.

(2) Easily processed under commonly used systems of spinning staple fibers into yarns. No special equipment, procedures, or handling techniques are needed. Static electricity is no problem.

(3) Readily dyed and finished—a wide range of colors and shades, with complete machine washability, can be obtained by using standard dyeing equipment, normal dyeing procedures, and good quality acetate dyes. Normal finishing techniques are satisfactory on Arnel; however, new finishing techniques designed to obtain special effects and properties have been developed and will be made available to customers.

Arnel is now being produced in staple form only—2½ denier, any length; 5 d.p.f. will be available soon. Filament yarn production is planned for the future.

Celanese Corporation of America, 180 Madison Ave., New York 16, N. Y.

For additional data, request item L-406, using Handy Return Card on page 201.

Metallizing Gun Assures Uniform Wire Speed

Uniform wire speed is assured in the new Mogulectric metallizing gun through the use of a 1/20-hp constant speed induction motor to drive the wire. This eliminates loss of time in making adjustments of wire feed and the danger of having chunks of metal thrown onto the work when reclaiming worn textile machinery parts.

The gun will spray wire gauges from 15 B & S to 3/16-inch diameter from the lowest to the highest melting point metal with only one adjustment to control the speed of the wire. Gas requirements are minimum—44 cubic feet of acetylene and 68 cubic feet of oxygen per hour for 3/16-inch stainless steel.

Metallizing Co. of America, 3520 W. Carroll Ave., Chicago 24, Ill.

For additional data, request item L-603, using Handy Return Card on page 201.

Equipment Briefs

A new **automatic weighing unit,** called the Howe Self-Contained Weightograph, features projection type of weight indication. Exact weight is flashed on a large, crystal clear, wide-angle screen for instant, accurate weighing at a glance.

The Howe Scale Co., Inc., Rutland, Vt. (L-201).

Structo **steel framework angles** can be joined with standard ⅜" bolts to quickly form sturdy storage racks for work benches, scaffolding, ramps, ladders, work platforms, movable bins, small buildings, etc. Only tools needed are a wrench and cutter. Portable hand cutter is available.

The Colson Corp., Elyria, Ohio (L-202).

Permanently lubricated take-up bearings are now available in two styles: Style "P" is of protected screw design for horizontal application; Style "T" is designed for wall mounting. Frames of both are made of structural steel and can be loaded in tension or compression. Bearings are self-aligning.

T. B. Wood's Sons Co., Chambersburg, Pa. (L-203).

A semi-automatic **general purpose stapler** which operates at the touch of a fingertip on a conveniently placed trigger is called the Arma Matic Stapler. User is free to hold textiles and other objects to be stapled with both hands while setting off the trigger with a gentle touch of the right thumb or forefinger. Pressing the handle releases the stapled object and primes mechanism for next operation.

Pittsburgh Tag Co., Pittsburgh 33, Pa. (L-204).

"Mo - Silicone Vacuum Grease" serves as a tight seal against both high and low pressures, as well as a highly efficient lubricant for moving parts. Recommended for lubrication

hydrocop *and* **3b softener**

Use this efficient—time proven—emulsion combination from your winder emulsion troughs and profit from a new high in quality, luster and softness. HYDROCOP and 3B SOFTENER will help you to obtain increased production of smooth, more even running, more easily knit yarns.

HYDROCOP and **3B SOFTENER** speed up the conditioning of greige, dyed or bleached yarns; cotton; woolen, worsted and cashmere; orlon; nylon; rayon and blends. Produced from first quality vegetable oils and non-mineral waxes which insure dependable performance, HYDROCOP and 3B SOFTENER are highly resistant to aging and discoloration, and do not cause shade change.

CHENILLE YARNS—Hydrocop—used with Mildant RX—will produce perfectly conditioned, smooth running, mildew resistant chenille yarns.

let us send you samples and more information.

LAUREL SOAP MANUFACTURING CO., INC.

Wm. H. Bertolet's Sons · established 1909
2603 East Tioga Street, Philadelphia 34, Pa.

Warehouses: Paterson, N. J., Chattanooga, Tenn., Charlotte, N. C.

of vacuum apparatus and as seal and thread compound for pipe joints.

The Lockrey Co., Southampton, N. Y. (L-205).

The Allen Model B-2 **2-ton power bench type punch press** features quick action, single pin clutch with simple, positive, non-repeat or repeat action. Straight ram guides with flat gib giving accurate fitting of dies for precision stamping.

Alva F. Allen, Punch Press Dept., Clinton, Mo. (L-206).

A new heat-sealing **cellophane "Helanca" sock bag** printed in three bright neutral colors has features of Helanca socks printed on both sides adjacent to the large transparent areas so that prospective customers can tell at a glance what the product is and what it will do.

N. T. Gates Co., Drexel Bldg., Philadelphia, Pa. (L-207).

Complete **systems for pH recording and control** include a Bristol electronic Dynamaster potentiometer recorder or controller, a Beckman Model W amplifier, electrode assemblies in either flow or immersion types, and a variety of final control elements for the addition of gaseous liquid, solid, or slurried reagents.

The Bristol Co., Waterbury 20, Conn. (L-208).

A new **boiler feed system,** incorporating a pre-heater that operates on steam from the boiler, is available for use in conjunction with Cyclotherm and other steam boilers. Boiler feed water is automatically maintained between 190 and 200 F.

Cyclotherm Div. United States Radiator Corp., Oswego, N. Y. (L-209).

Sewing machine operators have unlimited freedom of movement with a new **sewing machine stand** called E-Z-Flo which eliminates front legs. Improved stability and ruggedness are also provided. Efficiency is increased in moving goods to and from needle.

American Safety Table Co., Inc., 224 Fifth Ave., New York 1, N. Y. (L-210).

A **cutting tool** now on the market severs both flat strapping and round wire, making it ideal for shipping and receiving rooms. Designated #503 strap and wire cutter.

A. J. Gerrard and Co., Melrose Park, Ill. (L-211).

New spray control valve operates automatically in conjunction with centralized lubrication systems to provide **controlled mist lubrication for open gears.** Valve may be assembled to any lubricant injector in the centralized system, mounted either adjacent to, or remote from, gears to be lubricated.

Lincoln Engineering Co., Industrial Div., 5702 Natural Bridge Ave., St. Louis 20, Mo. (L-212).

Wire stitching machine operations are markedly improved by a new **50 lb coil holder** that is mounted on the stitcher. Designated the Model PIC, the coil holder was developed for single head and double head box stitchers to allow longer stitching runs and shorter stops to reload.

Acme Steel Co., 2840 Archer Ave., Chicago 8, Ill. (L-213).

For use wherever immersion thermocouples are impractical or undesirable are the Conax **adjustable pipe clamp thermocouples** for accurately reading outside pipe temperatures. Other applications: glass, alloy, or plastic pipe that is not easily entered; checking other temperature measuring equipment; installation and service without interrupting operations or flow.

Conax Corp., Buffalo 21, N. Y. (L-214).

A table model **electronic instrument for weighing and recording** is the Fairbanks-Morse Model CR designed to indicate and print weighing operations. For use with electric load cell and mechanical lever systems or multiple load cells without levers. Permits greater flexibility in weighing operations, gross and net printing, conversion weighing, digital tare, automatic balance detection, memory circuit, automatic indicating and printing, local and remote installation.

Fairbanks, Morse & Co., Chicago 5, Ill. (L-215).

Automatic control of water, solvents, oils, and other liquid ingredients fed to batching and blending processes can be extended to rates of flow as high as 300 gpm with the new 3" **Neptune Auto-Stop meter** which provides extremely accurate cut-off with no hydraulic hammer.

Neptune Meter Co., 19 West 50th St., New York 20, N. Y. (L-216).

A non-clogging **steam unit heater** designed especially for textile mill use is available in ten capacities to suit a wide range of requirements. There are no fins, practically eliminating necessity for blowing out the coil surface.

Ilg Ventilating Co., 2850 Pulaski Rd., Chicago 41, Ill. (L-217).

NEW Equipment AND MATERIALS

A new **electromagnetic flow meter,** designed for 2" to 8" flow lines, will measure the volume flow rate of any liquid of sufficient conductance and velocity. Unaffected by the pressure, viscosity, density or changes in conductivity of the flowing liquid, it is recommended for aqueous solutions, slurries, acids and other corrosives.

The Foxboro Co., Foxboro, Mass. (L-218).

"Scotch" brand **pressure sensitive tape No. 549** combines all the properties of "Teflon" film with the chemical and heat resistant properties of a pressure-sensitive silicone adhesive. Designed for quick and easy application to a wide variety of surfaces as a protective covering material.

Minnesota Mining and Mfg. Co., St. Paul, Minn. (L-219).

Now on the market is a **fork lift attachment** for Ford tractors that permits mechanized materials handling on off-pavement surfaces. Known as the Sherman Fork-Lift, it will lift a load up to 4,000 lb as high as 10 ft into the air.

Sherman Products, Inc., Royal Oak, Mich. (L-220).

A **device for maintaining thread tension automatically** on sewing machines is called "Auto-Ten". Unit is self-cleaning. Need for readjustment is eliminated. Operates with much lighter tension, eliminating stretching of synthetics.

Automatic Thread Control Co., 39 Newman Court, Hempstead, N. Y. (L-221).

Tar Spotter developed to remove tar spots as well as stains from lipstick and other similar materials can be used on grey cloth or on finished fabric as it will not adversely affect the finish or dye on the cloth. It is suitable for cotton, wool, or mixtures of these with synthetic fibers. Stain and spotter are removed, during normal finishing or may be washed out with a mild alkaline washing bath such as soapy water or a good detergent solution.

Allied Producers & Supply Co., P. O. Box 367, Athens, Ga. (L-301).

"Chicago" **Turbo-Pressure Blowers** maintain a constant pressure while supplying varying volumes of air. Available in single and double inlet

NEW Equipment AND MATERIALS

fans; direct or belt-drive. Quiet running. Ideal for pneumatic systems and other applications requiring a steady, non-pulsating air pressure or suction. For air pressures from 4 oz to 24 oz.

Chicago Blower Corp., 9867 Pacific Ave., Franklin Park, Ill. (L-302).

Quaker **plastic pipe,** Series "200," is made of 100% virgin polyethylene resin and guaranteed to be non-toxic. It will not rust or corrode, is easily handled, and requires no special tools to install. Economical, it will last indefinitely.

Quaker Rubber Corp., Tacony and Comly Sts., Philadelphia 24, Pa. (L-303).

A new line of **hydraulic cylinders** that require minimum installation space is now available for general purpose industrial applications. Called "Compact" cylinders, they can be furnished with adjustable hydraulic cushions on either or both ends to decelerate piston rod movement. Mounting flexibility is achieved through provision for multiple positioning of ports and air valves. Standard sizes, 1½" to 6" bore.

Vickers Inc., 1400 Oakman Blvd., Detroit 32, Mich. (L-304).

Foxboro **pressure recorders** are now being equipped with new Series 200 pressure elements which are vastly improved in pressure measuring characteristics. Elements for low pressure ranges (10" water to 10 psi) are specially formed and constructed with a free floating design to give greater power, strength, overrange protection, and straight line travel. Elements for higher pressure ranges employ a new pivotless and arborless construction which transmits power of spring to pen mechanism with less friction loss.

The Foxboro Co., Foxboro, Mass. (L-305).

The Colson Handler, a **gasoline-powered, rider-type lift truck** with hydraulic drive and hydraulic control, has a capacity of 4,000 lb and features a single control lever for throttle, power lift, and direction. Available in 7 standard lengths ranging from 30 to 72 inches.

The Colson Corp., Elyria, Ohio (L-306).

Recommended for all types of resilient floors is "Legsure," a "no buff, no scuff" **safety floor polish.** It dries to a long-lasting luster without buffing. Resists scuffing, is dirt and water repellent.

Walter G. Legge Co., Inc., 101 Park Ave., New York 17, N. Y. (L-307).

Assurance that fire extinguishers will be in working order when a fire emergency arises is provided by hanging them in a **tamper-proof safety box** called "Tam-Pruf." Features: all metal cabinet; extinguisher

visible at all times for casual inspection through glass windows in either side; instant opening—slight pressure against breaker arm with hand breaks small glass seal, permitting instant opening of door and removal of extinguisher; padlocked to prevent tampering.

Erie Safety Products Co., 1250 N. 65th St., Cleveland 2, Ohio (L-308).

Industrial applications for a new **process timer,** the TSA-21, featuring one-knob control include automatic mixing operations, machining tools, etc.

General Electric Co., Instrument Dept., Schenectady 5, N. Y. (L-309).

A new **tool for breaking steel banding** such as that used on shipping containers or bales of fabric is called the "Buster" Strapbreaker. It has no moving parts, weighs 2¾ lb, furnished with plastic grip.

Gustave Lidseen, Inc., 830 South Central Ave., Chicago 44, Ill. (L-310).

A **flammable liquids storage cabinet** now on the market provides safe over-night or week-end storage within the plant for flammable liquid supply cans. Provides storage for 45 gallons of liquid. Steel construction throughout.

The Protectoseal Co., 1920 So. Western Ave., Chicago 8, Ill. (L-311).

A new wide range **pocket size volt-ammeter** for measuring alternating current and voltage quickly and accurately is designated AK-4. Measures current on both insulated and non-insulated conductors without cutting conductor or interrupting work.

General Electric Co., Instrument Dept., Schenectady 5, N. Y. (L-312).

Hydraulically-operated **valves for dispensing predetermined, measured quantities of lubricant** are now available with any discharge output range desired.

Lincoln Engineering Co., Industrial Div., 5702 Natural Bridge Ave., St. Louis 20, Mo. (L-313).

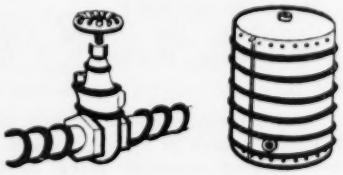
A **rayon tire yarn** of super strength and improved fatigue characteristics is now in commercial production. Identified by the name "Super Rayflex," it is currently available in 1650 denier.

American Viscose Corp., Marcus Hook, Pa. (L-314).

A cradle attachment for Elwell-Parker fork trucks permits reaching into a pile of rolls of cloth stored pyramid fashion to pick up rolls not ordinarily accessible when using standard forks.

The Elwell-Parker Electric Co., 4205 St. Clair Ave., Cleveland 3, Ohio (L-315).

A new type of copper-clad **electrical heating element** called "Heatflex" offers ease of installation, precision heating control, and wide application. Can be wrapped around al-



most anything, immersed in any solution non-corrosive to copper, or enclosed in any material.

Continental Electric Equipment Co., Box 1055, Cincinnati 1, Ohio (L-316).

A compact **dust and polish cloth** that is durable, inexpensive, and disposable is a non-woven cheesecloth wiper called "Wip-Eez." Packaged in re-usable moisture-proof containers, or in one-hundred foot rolls in convenient dispenser containers with cutting edge, enabling the fabric to be cut to any length.

Leshner Corp., Hamilton, Ohio (L-318).

(Continued on page 211)

now you can *Save Money* on

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by operating under the new

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NO WRITTEN AGREEMENT,
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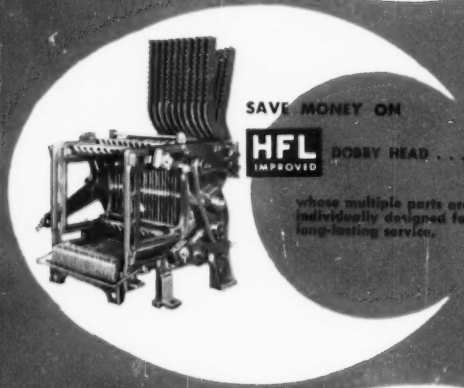
is to pass along to our customers the savings effected through economies resulting from our company's larger-scale operations. Mills that are our customers can now save money on their purchases of HFL Improved Loom Parts while they are, at the same time, obtaining the numerous other *operating benefits* from the use of these parts in their weave rooms.



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12-1 Featherlouch Drafting — Booklet describes in detail with pictures the most uniform drawing, the strongest drawing with the highest production per frame at the lowest cost. Write Ideal Industries, Inc., Bessemer City, N. C.

12-2 Fluorescent Lamps — Booklet by Westinghouse describes with illustrations the replacement of fluorescent lamps and how to save $27 on every 150 fluorescent lamps. Write Westinghouse Lamp Division, Bloomfield, N. J.

12-3 Gurley Testing Instruments — Bulletin outlines procedures for various textiles tests such as standard procedures for determining air permeability with the Gurley Permeometer. Other instruments described are Gurley Demsometer and Gurley Stiffness Tester. Write W & L E. Gurley, Industrial Division, Troy, N. Y.

12-4 Dyeing of Cyanoethylated Cotton — Bulletin is a preliminary report on the dyeability of cyanoethylated cotton. The bulletin gives illustrations showing Dyeometer exhaustion curves for dyes from six different classes; the appearance of dyed knitted tubes composed of bands representing different degrees of cyanoethylation. Bulletin also gives tables showing color values and color fastness. Write American Cyanamid Co., Dyestuff Dept., Bound Brook, N. J.

12-5 Energetic W-100 Synthetic Detergent — Bulletin gives general characteristics, physical properties, surface properties, chemical properties and suggested uses of W100 wetting agent. Write Armour & Co., Industrial Soap Dept. 1355 West 31st St., Chicago, Illinois.

12-6 New Transmission Belt — Brochure describes Poly-V-Drive. Design characteristics of the single endless belt with molded lengthwise ribs are explained in two color line-drawings that show why fourteen specific advantages are claimed for the drive. Gives comparisons of V-belts and sheaves with Poly-V conventional drive. Write Raybestos-Manhattan Rubber Div., Passaic, N. J.

12-7 V-Belt Catalog — Manual contains selection tables, drive design, sheaves, pulleys and all designs of V-Belts. For use by design, purchasing, production and maintenance departments. Write T. B. Woods Son Co., Chambersburg, Pa.

12-8 Resins & Latices — Booklet describes chemigum, latex, pliolite latex, plivola latex, pliovic AO and their applications. Gives properties of Goodyear Latices. Write Goodyear Chemical Div.

12-9 Coating — Bulletin describes Teflon Coating and Corrosion control. Write Livingstone Coating Corp., 709 W. Third St., Charlotte, 8 North Carolina.

12-10 Case Studies — Series of 8 case studies on engineered application of monorail equipment. Write American MonoRail Company, 13106 Athens Avenue, Cleveland 7, Ohio.

12-11 Better Packaging with Permacel Tapes — Illustrated brochure describes the flexibility of self-sticking tapes in saving time, money and facilitating better packaging. Write Permacel Tape Corporation, New Brunswick, N. J.

12-12 Value-Wise Shippers — Write for your free copy of the McLean ready reference chart of Eastern seaboard points served through the McLean terminal nearest you. Drawing clearly illustrates how freight is handled in a modern McLean terminal. Write McLean Trucking Co., Winston-Salem, N. C.

12-13 Cylinder Program for Automation — Pamphlet highlights "standardization" of critical cylinder mounting dimensions and stroke lengths interchangeable detachable mountings, highest quality design and specifications —and shows how all of these advantages can be currently obtained for automation and other heavy duty service. Write Miller Fluid Power Company, 2040 N. Hawthorne, Melrose Park, Illinois.

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12-14 Multi-Purpose Calender — Bulletin explains the exclusive design which enables these machines to be converted from one service to another for use as a Friction, Schreiner or Embossing Calender, and describes additional, unusual features of gear train, rolls, bearings and controls. Write McKiernan-Terry Corporation, Textile Machinery Division, Dover, N. J.

12-15 Loom Motors — Bulletin describes with illustration the Delco loom motor features. Write Delco Products, Dayton, Ohio.

12-16 Bal Materials Handling Specialties — Brochure on hard vulcanized fibre materials handling equipment. Describes representative types used in factory, warehouse and store operations. Write Wm. Bal Corp., 2 Johnson Street, Newark 5, N. J.

12-17 Bulk Pneumatic Handling — Bulletin tells how handling costs can be reduced substantially by using the proper pneumatic handling system. Also covered are the Fuller rotary compressor, the clinker cooler, and the new kiln preheater. Write The Fuller Company, Catasauqua, Pa.

12-18 Centralized Lubrication — Booklet describes the use of Alemite "Accumeter" measuring fittings eliminates all of the down-time, safety hazards, bearing failures, lubricant waste and other negatives inherent in outmoded types of lubrication. Write Alemite Industrial Dept., 1826 Diversey Parkway, Chicago 14, Ill.

12-19 Pressure Recorder — Bulletin carries a list of textile applications in which these Foxboro pressure recorders are used. Write Foxboro Co., Foxboro, Mass.

12-20 Wool Oil — Descriptive booklet on anti-static fiber lubricant, Twitchell 7421. Performance factors given particular emphasis are static control, scourability, lubricity and resistance to yellowing. Write Emery Industries, Inc., Dept. 5, Carew Tower, Cincinnati 2, Ohio.

12-21 Industrial Oil — Bulletin catalogs all of Swift's Industrial Oil and Fatty Acid products. Included are detailed specifications, shipping information and suggested usage on products of animal, vegetable and marine sources. Write Swift & Company, Industrial Oil Department, 1800 165th Street, Hammond, Indiana.

12-22 Anco Low Pressure Rotary Joint — Bulletin describes with illustrations the operating conditions, standard components and typical syphon application. Gives dimensions of ball bearing units and carbon bearing units. Write Anco Division American Associates, Inc., 1 Baker Street, Providence 5, R. I.

12-23 The Australasian Opossum — Booklet gives details of this (shuttle fur) little animal which plays an important part in the weaving of materials of America. Write R. E. L. Holt, Jr. and Associates, Drawer 1319, Greensboro, N. C.

12-24 Variable Speed Drive — Bulletin describes Wood's new single wide-range belt variable speed drive. Shows how to design and select drives for 1 to 20 H.P. motors. Dimensions and list prices are fully covered in this bulletin. Write T. B. Wood's Sons Co., Chambersburg, Pennsylvania.

12-25 The Shipping Clerk's Guide — Booklet by Garvey describes the proper inks to use, gives details on brushes, crayons, inks, markers, oil board, sponge rubber for pads, un-inked stamp pads, stencils and weights and measures. Write Garvey Fountain Brush & Ink Co., 4379-87 Duncan Avenue, St. Louis, Mo.

12-26 Unbrako Standards — Catalogue by Standard Pressed Steel Co. describes in pictures and text the company's line of Unbrako precision threaded fasteners. Several applications of each product are indicated in line drawings to suggest hundreds of others and to stimulate the imagination of design engineers. Write Standard Pressed Steel Co., Jenkintown, Pa.

12-27 Strip-O-Matic — Booklet tells how the new improved Strip-O-Matic saves time, money, and labor. Also describes the important features in both straight and bent tooth types with illustrations. Write Benjamin Booth Company, Allegheny & Janney Sts., Philadelphia, Pa.

12-28 Warper Beams — Folder describes the high speed for rayon tire cord, cotton warper beams, cast aluminum end supports and large diameter heads. Write U. S. Bobbin & Shuttle Co., Lawrence, Mass.

12-29 Cutler-Hammer Motor Control — Booklets describe the combination starters for the textile industry, for roving frames and spinning frames, loom switch and Cutler-Hammer Motor Control for textile cards. Write Cutler-Hammer, 315 N. 12th St., Milwaukee, Wisconsin.

12-30 Magneclutch, Magnebrake — Bulletin gives performance characteristics along with drawings of the magnetheir applications and dimensions. Write Vickers Electric clutch. Also gives features of magnebrake along with Division of Vickers, Inc., 1815 Locust St., St. Louis 3, Mo.

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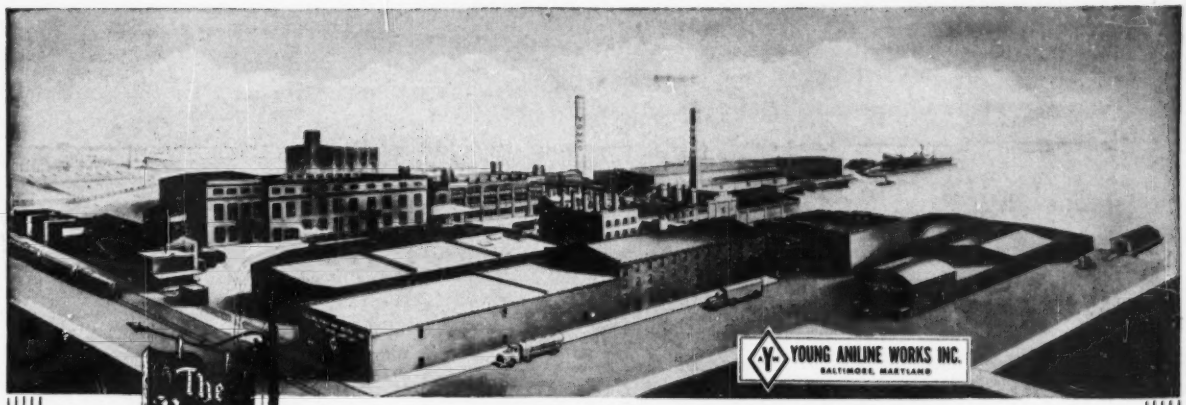

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17. A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK — 8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management. — AMERICAN ASSOCIATED CONSULTANTS, INC., 250 Park Ave., New York, N. Y.

19. INDUSTRIAL BUILDING — A 32-page booklet entitled "U.S.S. 12, U.S.S. 17 Stainless Steel Walls and Roofs for Industrial Buildings," is now available for distribution. This publication illustrates the use of type 410 and type 430 Stainless Steel Sheets in the construction of industrial and semi-industrial buildings. — U. S. STEEL CO., 525 William Penn Pl., Pittsburgh 30, Pa.

22. THE WONALANCET WAY — is the title of a editorial booklet published five times a year and deals with current problems which appear worthwhile at the time they are written. — WONALANCET COMPANY, 128 Burke St., Nashua, N. H.

PLANT & PLANT MAINTENANCE . . .

100. MOTION CONTROL WITH SILENTBLOC— Brochure describes advantages of General Tire Company's Silentbloc method of protecting delicate instruments, reducing machine vibration etc. Write THE GENERAL TIRE CO., Industrial Products Div., Akron, Ohio.

102. "TANK TALK" — Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said. — R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

103. HUMIDIFICATION, EVAPORATIVE COOLING — Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment. — AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

106. FINNELL COMBINATION SCRUBBER-VAC — Illustrated literature gives complete specifications and describes various methods of combination-machine scrubbing, including method recommended for cleaning oily floors. Write FINELL SYSTEMS, INC., 1300 East St., Elkhart, Indiana.

108. MAPLE FLOORING — Booklet describing finishing of Northern Hard Maple Flooring — list of M.F.M.A.-approved heavy-duty floor finishes. — MAPLE FLOORING MANUFACTURERS ASSOCIATION, Pure Oil Bldg., 35 East Wacher Dr., Chicago 1, Ill.

113. COTTON MILL EQUIPMENT — This book traces pictorially the steps in processing raw cotton into finished cloth. It shows the equipment needed for all phases of production, as well as containing a "Useful Information" section on Power Factor Correction, Lighting, Circuit Protection, etc. — WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

117. CLEANING SYSTEMS — Booklet entitled "Certified Climate and Cleaning Systems" gives latest information on system. Products and uses fully discussed with two story layout of Certified Climate central station air conditioning system. — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

127. SOLENOID VALVES — Bulletin "V" lists sizes from 1/2 inch to 3 inches; valves for normally open or closed service; stainless steel or Jenkins disc seats; three way solenoid valves, etc; typical installations. — THE JOHNSON CORP., Three Rivers, Mich.

129. AIR CONDITIONING AND HUMIDIFICATION — Catalog section 101 lists and briefly describes each item of the complete Bahnson line of equipment for textile mill air conditioning and humidity control. — THE BAHNSON COMPANY, Winston-Salem, N. C.

131. "AIR PROCESSING" — Set of three bulletins showing real meaning of the term, where it can be used, the requirements for a successful system, etc. — J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

135. COLOR CONDITIONING — Booklet illustrated in color describes how Du Pont color conditioning puts color to work for you. Many ideas on safety brought out which color can aid. — E. I. DU PONT DE NEMOURS & CO. INC., Finishes Div., Wilmington 98, Delaware.

138. METAL CONVEYOR BELTS — Recent catalog describes and illustrates Ashworth's entire range of manufacture, including the new Flat Wire Belt design and application, along with their Woven Wire constructions and Positive Drive Chain Edge Belts. — ASHWORTH BROS. INC., Metal Products Div., Fall River, Mass.

146. FUNCTIONAL GLASS BLOCK DATA — Folder shows in detail daylighting function of Light-directing and Light-diffusing Functional Glass Blocks. — PITTSBURGH CORNING CORP., 307 4th Ave., Pittsburgh 22, Pa.

150. RIHCO HUMIDIFIERS AND COOLING SYSTEMS — Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaporative cooling systems. — ALDRICH MACHINE WORKS, Greenwood, S. C.

151. INDUSTRIAL BRUSHES — Illustrated booklet of industrial brushes featuring textile usage on shears, printing machines — also flock, raising and cylinder brushes. — M. W. JENKINS SONS, INC., 444 Pompton Ave., Cedar Grove

153. LAMINATED TEXTILE PLASTICS—Booklet by Synthane Corporation shows variety, application, and advantages of laminated plastic parts and supplies for the textile industry — SYNTHANE CORPORATION, Textile Division, Oaks Penna.

154. AIR CONDITIONING FOR THE TEXTILE INDUSTRY — Booklet shows advantages of air conditioned mills in better products and more efficient workers, and gives values of White & Co. air conditioning in particular. — WHITE & CO., INC., 1440 S. Tryon St., P. O. Box 533, Charlotte, N. C.

158. FLOATING BOTTOM ROVING TRUCK — Booklet by Excell Textile Supply shows advantages of roving truck with automatically adjusted bottom. Eliminates reaching over into truck by keeping load level within easy reach of operator. — EXCEL TEXTILE SUPPLY CO., Lee Ave., Lincolnton, N. C.

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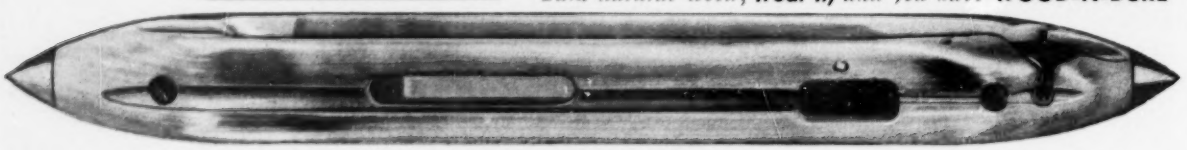

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162. MODERN METHODS OF TEXTILE FLOOR MAINTENANCE — Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs as well as preserving textile mill floors. — G. H. TENNANT COMPANY, 2530 N. Second St., Minneapolis 11, Minn.

169. MACHINE BRUSHES — Illustrated Folder shows many types of machine brushes and describing their particular use for printing, washing, brushing, singeing, and shearing is sent free upon request. — INDUSTRIAL BRUSH COMPANY, INC., Woodside Avenue, Little Falls, New Jersey.

173. BLOWERS AND EXHAUSTERS — Bulletin No. 3014-D describes types "E" and "RE" electric blowers and exhausters. Uses and full description of each with detail drawings. — BUFFALO FORGE CO., 490 Broadway Buffalo 5, N. Y.

174. PAINT STRIPPING BOOKLET — Illustrated booklet providing helpful data on latest materials and methods for simplified stripping of paint. Methods described include: (1) steam gun; (2) hot flow-on; (3) cold spray; and (4) tank immersion. — OAKITE PRODUCTS INC., 22 Thames St., New York 6, N. Y.

176. STOKERS AND BOILERROOM EQUIPMENT — For information on boilerroom problems, improvements and apparatus. — McBURNEY STOKER CO., 2110 Peachtree Rd., Atlanta, Georgia.

179. BETTER WAYS — Form 2020, condenser catalog of standard and special model Toledo Industrial Scales that are being used in receiving, shipping, and production operations by all industries including the textile field. — TOLEDO SCALE CO., Box 97, Toledo, Ohio.

181. AIR FILTRATION — Bulletin 234 describes and illustrates the Auto-Airmat, which is the Automatic Dry-Type air filter. Principle of operation, performance characteristics, construction and installation fully discussed. — AMERICAN AIR FILTER COMPANY, INC., 275 Central Ave., Louisville 8, Ky.

188. PROGRESSING-CAVITY PUMPS — A new principle in pumps. Self-priming, positive displacement, uniform flow features discussed. — ROBBINS & MYERS, INC., Pump Div., Springfield, Ohio.

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212. GATES TEXTILE ACCESSORIES — Handy pocket-size catalog BHM-7, fully illustrated, gives specifications of Gates textile accessories including pickers, lug straps, check straps, cone belts, evener belts, harness straps, take-up roll covering, and others. — THE GATES RUBBER COMPANY, 1091 Broadway, Denver 17, Colo.

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229. DODGE GENERAL POWER TRANSMISSION MACHINERY — Catalog describes various types of power transmission apparatus by Dodge. Gives specifications, sizes, applications, and prices. Very comprehensive. — DODGE MANUFACTURING CORP., Mishawaka, Indiana.

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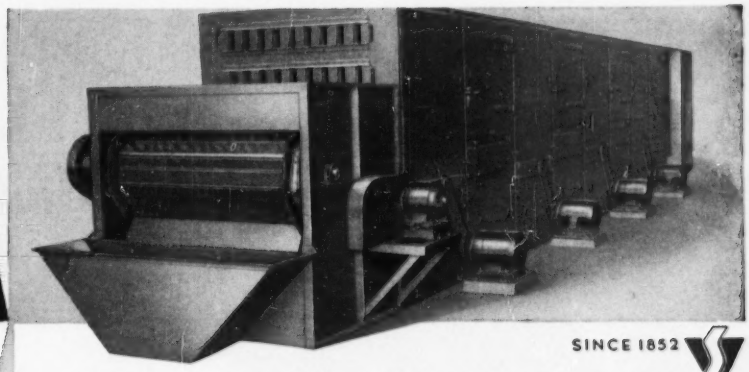

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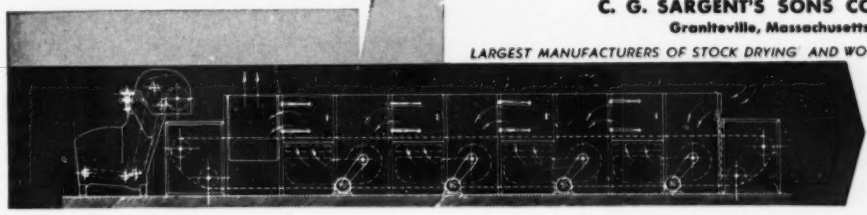

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256. METERED LUBRICATION — Bulletin 6A has 12 illustrated pages showing how central lubricating systems are applied to combers, roving frames, winders, knitters, looms, etc. — BIJUR LUBRICATING CORP., Rochelle Park, N. J.

259. SUNOTEX MACHINE OIL — Booklet describing this machine oil as being "custom-made" for the textile industry. Advantages discussed and pictures of uses which includes knitting machinery. — SUN OIL COMPANY, Philadelphia 3, Pa.

262. SMALL PRECISION METAL PARTS — Catalog by Torrington Company describes many special precision metal parts made by its Specialties Division. — THE TORRINGTON COMPANY, Specialties Division, 500 Field Street, Torrington, Connecticut.

265. SERVICE PROCEDURE FOR BALL BEARINGS — A helpful manual for maintenance engineers giving helpful hints on disassembly, inspection, cleaning, lubrication, and replacement of ball bearings in any mechanism. — NEW DEPARTURE, Division of General Motors Corp., Bristol, Conn.

266. SILICONE LUBRICATION — Bulletin RG2-INC, describes properties of Silicone greases used in motors at high speeds and temperatures, on oven conveyors, tenter frames, can dryers, etc. Decrease by 10 to 1 in re-lubrication requirements described. — DOW-CORNING CORP., Midland, Mich.

277. SPECIAL TEXTILE MOTORS — Bulletin 51B6055A describes special features of "Quick-Clean" motors, including discussion on free air flow, pre-lubricated bearings, rigid cast iron frame and double insulation. — ALLIS-CHALMERS MFG. Co., Milwaukee, Wis.

280. NEW MOTOR CONTROL — 8-page promotional folder gives complete description of the new Arrow-Hart Type "LM" Loom Switch, said to be the first manual, across-the-line starter designed specifically for textiles. — INDUSTRIAL CONTROL DIVISION, Arrow-Hart and Hegeman Electric Co., 103 Hawthorne Street, Hartford 6, Conn.

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300. HOW TO SAVE STEAM — Bulletins and case histories are available on Sarco installations, featuring a complete line of steam traps, temperature controls and heating specialties. — SARCO COMPANY, INC., Empire State Building, New York 1, N. Y.

301. JOHNSON ROTARY PRESSURE JOINTS — Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices. — THE JOHNSON CORP., Three Rivers, Mich.

303. PROCESS CONTROL EQUIPMENT — Catalog containing brief description of standard and special process control equipment engineered for textile industry. Includes schematic diagrams.—MASON-NEILAN REGULATOR CO., 1190 Adams St., Boston, Mass.

314. MOISTURE CONTENT CONTROL — Bulletin F-3.56 giving details of features and benefits of moisture equipment control for slashers and textile applications. — BARBER-COLMAN CO., Rockford, Ill.

321. RED-RAY BURNERS — Bulletin describing use of Red-Ray Burners in preheating and partial drying to increase capacity of frame. — RED-RAY MFG. CO., 445 W. 45th St., New York, N. Y.

324. STROBOTAC — Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills." — GENERAL RADIO CO., Cambridge 39, Mass.

337. COUNTING DEVICES — Catalog of Trumeter's complete line of counters for every application where counting, measuring or registering is required. Colored pictures illustrate each application. — TRUMETER COMPANY, 1265 Broadway, New York 1, N. Y.

339. NEW LUBRICATED PLUG VALVES — Illustrated booklet by The William Powell Co. features a new line of semi-steel and steel lubricated plug valves. Advantages include quick and positive shut off. — THE WILLIAM POWELL COMPANY, 2525 Spring Grove Ave., Cincinnati 22, Ohio.

341. TEXTILE ELECTRONIC TUBES — In the modern textile plant there are many electronic devices which depend on Electronic Tubes. Specialty Distributing Co. offers information on their services with regard to prompt replacement of these. — SPECIALTY DISTRIBUTING COMPANY, 425 Peachtree Street, Atlanta, Ga.

CARDING, SPINNING, WINDING . . .

401. LUMMUS DUSTLESS, STEEL BLENDING FEEDERS. — Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking.—ALDRICH MACHINE WORKS, Greenwood, S. C.

402. AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS — 24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning, twisting, winding and warping machines. Also for cleaning monitors and card room ceilings. — THE AMERICAN MONORAIL CO., Cleveland, Ohio.

404. LAPLESS ENDLESS SPINNER — Bulletin and full information will be supplied on lapless endless spinner and coning belting. TON-TEX CORPORATION, 31 Columbus Ave., Englewood, N. J.

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407. IDEAL HIGH SPEED BALL BEARING DRAFTING SYSTEM — Bulletin gives comparison of Ideal and Conventional drawing costs. — IDEAL INDUSTRIES, INC., Beasemer City, N. C.

408. CARD GRINDING INFORMATION — Outlines care of grinders, instructions on speed to run grinders, amount of oil to add to machine and other pertinent information. — B. S. ROY & SON CO., Worcester, Mass., and Charlotte, N. C.

412. SERVICE FOLDER — Folder covers textile metal products including spinning and twisting cylinders, card screens, etc. — JENKINS METAL SHOPS, INC., Gastonia, N. C.

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414. WORSTED SPINNING — Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top to yarn in five economical and efficient stages. — SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

415. DOUBLER-TWISTER FOR LARGE PACKAGES — Bulletin describing two new machines producing straight or tapered top bobbins. Suitable for filament or spun yarns up to three pound capacity. Individual thread stop motion fully discussed. — FLETCHER WORKS, INC., Philadelphia, Pa.

416. THE BRIEF SAGA OF THE RING TRAVELER — An interesting history relative to the ring traveler, which is in reality the basis of the spinning frame. John Thorpe's invention of ring traveler, the development of the spindle, and the invention of Rabeth's Bolster type spindle are covered. — NATIONAL RING TRAVELER CO., Pawtucket, R. I.

418. PACIFIC CONVERTER — Graphic description of machine that cuts any synthetic tow; and when desired, blends it with wool or staple sliver, keeping the fibers parallel, and issuing an even sliver of accurate blend. — WARNER & SWASEY CO., Cleveland, Ohio.

419. TEXTILE APRONS — Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery. — TEXTILE APRON COMPANY, East Point, Ga.

420. AUTOMATIC FILLING WINDING — Eight page, two color booklet describing the operation and mechanism of the Hacoba winder. — ATKINSON, HASERICK & CO., 211 Congress St., Boston, Mass.

421. CARD ROLL COVERS — Brochure describing the Davis seamless roll covers. Lists advantages, specifications and offers free trial. — THE TEXTILE LABORATORIES, P. O. Box 1003, Gastonia, N. C.

423. HANDY REFERENCE TABLES — Folder showing spinning traveler speeds, sizes of ring flanges, etc. — VICTOR RING TRAVELER CO., Providence, R. I., and Gastonia, N. C.

426. UNIRAIL UPTWISTER — Bulletin describes Universal Winding's headless package or bobbin take-up Unirail Uptwister which gives you higher yarn quality and better packages at faster speeds and lower costs, according to the bulletin. Well illustrated with advantages discussed. — UNIVERSAL WINDING COMPANY, P. O. Box 1605, Providence, R. I.

432. PRECISION TEXTILE WINDING — Bulletin on Kidde Tensions and Density Control for winding rubber cones. — WALTER KIDDE & CO., INC., Belleville, N. J.

435. DOUBLE DECK TWISTERS — Bulletin describes Jumbo (8 oz. to 16 oz. headless or take-up spool packages) and Acme (up to 10 oz. packages) models for high speed twisting of silk, rayon, nylon, etc., to finest deniers. — U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

436. MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER — Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording. — SCOTT TESTERS, INC., Providence, R. I.

438. HEADLESS PACKAGE TWISTER ELIMINATES REDRAWING — Literature shows high-speed Face Drive Twister for accurately building tapered or straight-end headless packages which go direct to quilling or warping without redrawing. — U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

445. ROLLER BEARING SPINDLES — Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described. — THE MARQUETTE METAL PRODUCTS CO., 1145 Galewood Ave., Cleveland, Ohio.

447. CONE WINDER — Form A95 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply. — FOSTER MACHINE COMPANY, Westfield, Mass.

453. EVENNESS TESTER — Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning. — USTER CORPORATION, Charlotte, N. C.

455. PIN DRAFTS — Catalog describing the use and features of the machine, what it can do to cut costs in the processing of natural and synthetic yarns, along with specifications and installation data. —WARNER & SWASEY CO., 5701 Carnegie Ave., Cleveland, Ohio.

458. CONICAL RINGS AND FLYERS — Special data available on the Herr conical rings and flyers.—HERR MANUFACTURING CO., INC., 318 Franklin St., Buffalo 2, N. Y.

459. TENSION CONTROLS — Folder describing tension compensation and automatic tension controls. Three models — Standard, Warp, and Double Disc fully described with specific application.—WALTER KIDDE & CO., INC., Belleville 9, N. Y.

461. PRECISE WIND MACHINE — Form A-92 describes the Foster Model 75 widely used for winding straight or pineapple cones and tubes of rayon, nylon and other filament yarns. — FOSTER MACHINE COMPANY, Westfield, Mass.

462. TEXTILE MACHINERY PARTS CATALOG — A 24-page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Cots, Aprons, Loop Pickers, Lug Straps, etc. — DAYTON RUBBER CO., Dayton, Ohio.

467. CARD CLOTHING — 8-page booklet by Benjamin Booth Company describes Strip-O-Matic Card Clothing and its advantages. — BENJAMIN BOOTH COMPANY, Allegheny Avenue & Janney Streets, Philadelphia, Pennsylvania.

469. SHORT CUT TO STAPLE FIBER SPINNING — Color brochure shows the ten steps in operation of the Turbo Tow Stapler, gives technical details and diagrams. — TURBO MACHINE COMPANY, Lansdale, Pa.

471. FACTS ABOUT YOUR FLYERS AND SPINDLES — Booklet by Ideal Machine Shops shows how smooth Flyer and Spindle operation can help produce higher and more efficient output, good quality yarn, minimum wear, and larger bobbins. — IDEAL MACHINE SHOPS, Bessemer City, N. C.

474. BALL BEARING COMB BOXES — Southern States Equipment Corp. offers literature on their famous C-1 Ball Bearing Comb Boxes. Description, working principle, cut-a-way views shown.—SOUTHERN STATES EQUIPMENT CORP., Hampton, Ga.

475. TEXTILE ROLL COVERINGS AND MILL SUPPLIES — Color Booklet by Armstrong shows and describes their complete line of textile roll coverings, including also loom supplies, mill supplies, Roll covering for Cotton, Silk and Synthetic and Woolen and Worsted systems. An excellent guide book. — ARMSTRONG CORK CO., Industrial Div., Lancaster, Pa.

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476. TEXTILE FIBER OPENER FOR COTTON, SYNTHETICS, WOOL — New brochure by Cen-Tennial Cotton Gin Co. gives complete data on the Cen-Tennial Opener which incorporates improvements on the original SRRL Opener. Complete operating procedure is described. — CEN-TENNIAL COTTON GIN CO., Columbus, Ga.

477. METALLIC CARD CLOTHING — Color booklet by Platt Brothers describes their Patent Metallic Card Clothing. Well-illustrated it gives applications, types of clothing for all fibers, etc. — TEXTILE INDUSTRIES, 806 Peachtree Street, Atlanta, Georgia.

478. TIPS ON CARDING PROCEDURE—Monthly bulletin by Ashworth Brothers includes many useful tips and advice on carding operation, maintenance and care and is available to anyone interested. Bulletin is a reprint of section appearing no green paper in this issue. — ASHWORTH BROTHERS, Fall River, Mass.

WEAVING, SLASHING . . .

501. LOOMS — An accordion type folder is available entitled "Unfolding to You the World's Largest Line of Looms." Information on all types fully discussed. — CROMPTON & KNOWLES LOOM WORKS, Worcester 1, Mass.

502. COUNTING AND MEASURING DEVICES—Condensed textile catalog illustrating and describing pick counters, hank counters, cut meters, measuring counters. Wide range of counting devices for production recording on all types of textile machinery.—VEEDER-ROOT, INC., Hartford, Conn.

503. WEAVER'S KNOTTER — A catalog on the Boyce Weaver's Knotter giving a few instructions as to its use recommendation as to the proper type knotter for the various types of yarns, and the spare parts that go to make up the knotter. — A. B. CARTER, INC., Gastonia, N. C.

504. LOOM SUPPLIES — Literature describing complete line of straps, strapping, pickers, dobby cords, sticks, binders, bumpers, brake lining and allied products. — E. H. JACOBS NORTHERN DIV., THE BULLARD CLARK CO., Danielson, Conn.

506. SLASHING HINTS — A 20-page booklet offering helpful hints on warp sizing. Subjects: Size cooking equipment, section beam tension, sizing selvages, cooking, use of split rods, weighing for the mix, tips on cooking equipment, storage in kettles, etc. — SEYDEL-WOOLLEY & CO., 748 Rice St., N. W., Atlanta, Ga.

507. VARIABLE SPEED SLASHER DRIVE — Reeves bulletin G-503 describes their Servo-Control slasher drive which automatically controls tension from creel to beam, and which controls the stretch in the slasher. — REEVES PULLEY CO., Columbus, Ind.

508. LOOM PRODUCTION CHARTS — Convenient celluloid card showing yards per loom per week of 40 hours at various loom speeds. — RALPH E. LOPER CO., Greenville, S. C.

509. MULTI-MOTOR SLASHER DRIVES—Booklet designed to bring the descriptive information on multi-motor slasher drives up to date, and emphasize the improvement in the drive through the use of Rototrol for the control of winding tension.—WESTINGHOUSE ELECTR'C CORP., 511 Wood St., Pittsburgh 30, Pa.

511. ALUMINUM BEAMS — Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types. — HAYES INDUSTRIES, INC., Jackson, Mich.

517. LOADING SYSTEM — Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices. — THE FOXBORO COMPANY, Foxboro, Mass.

521. STEEL WARP BEAMS — 20 page Catalog No. 45 illustrating Standard and Special Purpose Warp Beams for the weaving industry, both broad-loom and narrow fabrics. Also Textile Machinery Specialties. — MILTON MACHINE WORKS, INC., Milton, Pa.

524. JOHNSON WARP SIZES — 12 page fully illustrated booklet, describing the 7 cylinder sizer with stretch indicator and finger-tip control of stretch. A point-by-point analysis. — CHARLES B. JOHNSON MACHINE WORKS, Piercy & Holsman Sts., Paterson, N. J.

530. ROTARY UNIONS — New catalog shows how to cut costs, get better sealing on can dryers, slashers, calenders, etc. Catalog No. 500 entitled "Where Good Connections Count." — PERFECTING SERVICE COMPANY, Atando Ave., Charlotte, N. C.

531. ALL PURPOSE BALL BEARING ROTARY UNION — Booklet gives descriptions, typical installation, engineering data with complete illustrations. — PERFECTING SERVICE CO., 332 Atando Avenue, Charlotte, N. C.

536. HOMOGENIZER IMPROVES SLASHING — Pamphlet by Manton-Gaulin Manufacturing Company shows how mechanical conversion of size by the Gaulin method produces better size. Gives installation pictures and specifications. — MANTON-GAULIN MANUFACTURING COMPANY, INC., Everett, MASS.

537. WEST POINT'S HOT AIR SLASHER — Bulletin describes advantages and capacities of new hot air slasher by West Point Foundry and Machine Works. Detailed specification included. — WEST POINT FOUNDRY AND MACHINE WORKS, West Point, Georgia.

538. AIR SLASHER DRYER — Pamphlet by Proctor & Schwartz shows construction and operating details of the Proctor Air Slasher Dryer. Advantages listed and cut-away view shown. — PROCTOR & SCHWARTZ, INC., 7th St. and Tabor Rd., Philadelphia 20, Pa.

539. AUTOMATIC REGAIN CONTROL OF RAYON AND SYNTHETIC FIBRE SLASHING — Technical booklet by Minneapolis-Honeywell gives data on their electronic, Multi-range "Moist-O-Graph" system for controlled regain. — MINNEAPOLIS-HONEYWELL REGULATOR CO., Station 64, Phila. 44, Pa.

540. SLASHING EQUIPMENT — Brochure by Tower Iron Works shows different types of slashing equipment, enumerating characteristics and advantages of each. — TOWER IRON WORKS, 50 Borden St., Providence 3, R. I.

545. NOPCO CHEMICAL DATA SHEETS—Now available are Nopcostats, Nopco Sizes N and D, Important points in Warp Sizing, Interpretation of Analysis, Wetting Agents, Balanced wool and worsted oils, Acetate Warp Sizing, Viscose warp sizing, Rayon soaking. — NOPCO CHEMICAL CO., Harrison, N. J.

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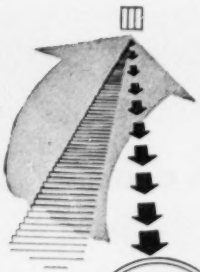

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601. CONTINUOUS PEROXIDE BLEACHING RANGES — Booklet gives illustrations and describes uses and gives specification of Ranges. — RODNEY HUNT MACHINE CO., 49 Mill St., Orange, Mass.

602. CONTROLLED VAT DYEING — Calco technical booklet No. 828 discusses Stabilization of Vat Dyes at Elevated Temperatures, Instrumental and analytical measurements, Leuco Potentials. — AMERICAN CYANAMID CO., Calco Chemical Division, Bound Brook, New Jersey.

606. HYDRAULIC POWER UNITS — Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc. — B. F. PERKINS & SON, INC., Holyoke, Mass.

608. WASHERS FOR SCOURING, BLEACHING, ACIDIFYING — Well-illustrated booklet shows how Sargent's modern, high-capacity, continuous process washers can help maintain quality and decrease costs. Contains operation diagram and good commentary on construction. — C. G. SARGENT'S SONS CORPORATION, Graniteville, Mass.

610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY — Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Pre-Boarding and Automatic Boarding Machines for hosiery. — PROCTOR & SCHWARTZ, INC., 7th and Tabor Rd. Philadelphia, Pa.

615. HIGH PRODUCTION EXTRACTOR FOR RAW STOCK—YARN—HOSIERY — Descriptive bulletin and full information on automatic Twintainer Extractor with bottom-unloading removable baskets. Machine replaces three conventional extractors, lowers labor costs. — FLETCHER WORKS, INC., Philadelphia, Pa.

616. FINISHING DRIVES — 32-page booklet covers complete drives Westinghouse has engineered for the textile finishing industry. Describes all types of finishing ranges and discusses advantages of Westinghouse drives for these installations. "Packaged" drives for batch processes covered.—WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING — Illustrated folder describes the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation. — TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

620. REGENERATION OF ZEOLITE WATER SOFTENERS — Booklet explains advantages of International's Lixate Process in regeneration of zeolite water softeners. Shows how it cuts costs and does a better job. — INTERNATIONAL SALT COMPANY, INC., Scranton, Pennsylvania.

623. SELVAGE GUIDER — The Marshall and Williams positive overfeed and selvage guider is described in a brochure as being developed to meet the most modern requirements of the textile finishing industry. Full description, pictures and advantages discussed. — MARSHALL AND WILLIAMS CORPORATION, 46 Baker Street, Providence 5, R. I.

627. SINGLE APRON STOCK DRYERS — Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions. — C. G. SARGENT'S SONS CORP., Graniteville, Mass.

631. ELIMINATE DYE-BATH SHOCK — Data sheet by Foxboro shows how woven fabrics and hosiery may be protected from Crow's-feet, uneven shade, creasing caused by too rapid cooling of goods. Write for data sheet, 229-60. — FOXBORO COMPANY, 487 Neponset Ave., Foxboro, Mass.

632. LUG STRAP WASHERS — Series 1-C illustrated bulletin detailing right and wrong application and use of washers. — E. H. JACOBS NORTHERN DIV., Danielson, Conn.

637. BALL BEARING TURN TABLE — Leaflet describing this 48" diameter steel turn table for use in mills where the cloth is delivered in rope form to trucks and the trucks are placed in position ahead of a Scutcher or cloth opening machine. Advantages discussed. — BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

638. DYEING AND FINISHING MACHINES — Booklet by James Hunter Machine Company shows pictures, applications, and advantages of following: "Vapo Jet" Dryer; "Hunter Dye Beck"; "Flexreel" Rope Washer; Continuous Cloth Washer; Model "S" Dye Kettles; Compartment Washer; Fulling Mill; Top Dyeing Machine; "Uniflow" High-speed Tenter Dryer; Cloth Carbonizer. — JAMES HUNTER MACHINE CO., North Adams, Mass.

639. ROTARY DYEING MACHINE — Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc. — SMITH, DRUM & CO., Allegheny Ave., at 5th St., Philadelphia 33, Pa.

653. GUIDERS AND TENSION DEVICES — Illustrated and described are the Mount Hope Precision Guiders and open width Tension Devices used for accurate straight line guiding of open width goods. Bulletin SG-PG. — MOUNT HOPE MACHINERY CO., Fifteen Fifth St., Taunton, Mass.

654. ION EXCHANGERS — Bulletin details a general history of ion exchange, gives data on proper selection of ion exchangers and lists general applications in the treatment of water. — PERMUTIT COMPANY, 330 West 42nd Street, New York 36, New York.

655. PAPER TUBES FOR YARN AND CLOTH—Complete data to help you solve your paper tube problems. Overnight delivery of yarn and cloth paper tubes and boards. Shows how warehousing of these items can be avoided. — TEXTILE PAPER PRODUCTS, Cedartown, Ga.

658. BEAM MULTIPLE DYEING — Information on the Morton System Horizontal Beam Dyeing machine is available. Features include minimum handling of beams and the use of a common or individual dyebath for as many as six beams. — MORTON MACHINE WORKS, 1718 Third Avenue, Columbus, Georgia.

DYESTUFFS, CHEMICALS, SOAPS . . .

700. COTTON FINISHING OILS — New booklet by Twitchell devoted to finishing Sanforized Fabrics contains such specific data as re-wetting speed, imparted softness, resistance to yellowing, and "balance" of these properties. — EMERY INDUSTRIES, INC., Dept. 5, Carew Tower, Cincinnati 2, Ohio.

701. MAGNESIUM APPLICATIONS—Case history information on magnesium application in the textile field, published bi-monthly with latest developments in the magnesium industry.—DOW CHEMICAL CO., Midland, Mich.

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702. DEFOAMERS — Bulletin AA-2 lists uses and properties of Antifoam A, which can be effectively used at 10 to 200 ppm in most industrial applications. Emulsions available improve dispersability in aqueous systems. DOW-CORNING CORP., Midland, Mich.

704. FUNDAMENTALS OF INDUSTRIAL WATER TREATMENT PROCESSES — 24-Page booklet entitled "If You Use Water" discusses the fundamentals of the three major classifications of industrial water treatment based on ion exchange: softening, dealkalization, and deionization. — RHOM & HAAS COMPANY, Resinous Products Div., Washington Square, Philadelphia 5, Pa.

705. THEORETICAL AND APPLIED SILK-SOAKING — Attractive 23-page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk. — HART PRODUCTS CORP., 1440 Broadway, New York 18, N.Y.

710. DEPUMA — An odorless, viscous, non-evaporating emulsion which is highly efficient as an anti-foam, useful in all phases of dyeing and printing. — AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

713. LIOVATINE ED — Vat dyeing assistant increasing penetration and level dyeings with maximum yield of color. — SANDOZ CHEMICAL WORKS, 61 Van Dam St., New York City.

714. NEW SODA ASH BULLETIN — 64-page edition contains both new material and revisions of previously used data covering the subject. Ask for Bulletin No. 5. — SOLVAY SALES DIV., 40 Rector St., New York 6, N. Y.

715. AQUAROL AND ARKANSAS PRODUCTS— Bulletin on Aquarol water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and yarn, hosiery processing.— ARKANSAS CO., INC., Newark, N. J.

721. SURFAX 1288 — Product data sheet explains this useful wetting and rewetting agent. Described as being water soluble at all temperatures and is a highly concentrated, economical surface active agent. — E. F. HOUGHTON & CO., 303 W. Lehigh Ave., Philadelphia, Pa.

727. COLOR PRINCIPLES — Booklet available from Sandoz Chemical describes the fundamental principles of color and its measurement. Booklet has been adopted by several of the leading textile schools. — SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y.

728. UNIQUE YARN AND DYEING SERVICE— Booklet by Franklin Process tells why Franklin Process Yarn Dyeing Service is one of the top package yarn dyeing services. Also includes table showing relative fastness of dyestuffs used on various fibers.—FRANKLIN PROCESS CO., 564 Eddy St., Providence, R. I.

729. STATIC AND STATIC CONTROL—Paper's deal with historical background of static electricity and the problems caused by it along with methods of controlling them. — DEXTER CHEMICAL CORP., 819 Edgewater Road, New York 59, N. Y.

733. WOOL OILS — Twin booklets by Proctor and Gamble tell of the influence of wool oils in producing quality yarns and fabrics, and of Proctor and Gamble's Proxol T, an outstanding wool oil. — PROCTOR AND GAMBLE DIST. CO., Cincinnati, Ohio.

734. BLEACHING WITH PEROXYGEN CHEMICALS — Bleaching methods for cotton, rayon, nylon and animal fibers are comprehensively treated in Becco Research and Development Dept., Bulletin No. 52, now available. — BUFFALO ELECTRO-CHEMICAL CO., INC., Station B, Buffalo 7, New York

745. RAPIDASE FOR DESIZING — Bulletin explaining in detail the properties and characteristics of Rapidase. — WALLERSTEIN CO., INC., 180 Madison Avenue, New York 16, N. Y.

749. WATER SOLUBLE GUMS — Booklet giving the origin, gathering, marketing and uses of water soluble gums. This booklet No. 23 is beautifully illustrated, and is one of the few treatises on the subject. — JACQUES WOLF & CO., Passaic, N. J.

753. TRITON X-100 — Booklet available describing this highly concentrated detergent and wetting agent, main uses fully discussed and chemical properties brought out. — ROHM & HAAS COMPANY, Philadelphia 5, Pa.

757. THE CHEMISTRY OF CYNANURIC CHLORIDE — Very comprehensive technical text by American Cyanamid Co. Gives Physical Properties, Reaction Chart, Chemical Properties, Potential Applications, Toxicity, Table of Alcohol Reactions, Table of Amine and Related Compound Reactions. — AMERICAN CYANAMID CO., 30 Rockefeller Plaza, New York 20, New York.

762. ONYX TECHNICAL DATA SHEETS—Two new data sheets describing the use, advantages, and applications of Xyno Resins S-69 and Xyno Resin 362 — ONYX OIL & CHEMICAL COMPANY, Jersey City 2, N. J.

766. DU PONT PEROXIDE BLEACHING SYSTEMS — New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included. — E. I. DU PONT DE NEMOURS & CO., ELECTROCHEMICAL DEPT., Wilmington, Del.

768. TEXTILE CHEMICALS — Buying guide and reference book giving facts about Amalgamated Products, the fabrics on which they give best results, their proper application, and their chemical composition. — AMALGAMATED CHEMICAL CORP., Philadelphia 34, Pa.

769. SURFACE TENSION DEPRESSANT — The booklet, "Mercerizing and Alkametcc—The Ideal Dry" which can be used as a wetting agent; a dye leveling agent, a penetrant in package dyeing. — HART PRODUCTS CORP., 1440 Broadway, New York, N. Y.

773. TECHNICAL CHEMICAL DATA SHEETS — Complete set for dyeing, printing and finishing operation, showing major operations, performance and advantages. — ONYX OIL & CHEMICAL CO., 199 Warren St., Jersey City 2, N. J.

774. ROYCE TEXTILE CHEMICALS — This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing. — ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

KNITTING . . .

801. THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE — Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

808. REINER WARPER — Full width and sectional warpers for all requirements in the knitting and weaving industry fully described in recent catalog. — ROBERT REINER, INC., Weehawken, N. J.

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818. MILTON LIGHT METAL BEAMS FOR EVERY APPLICATION — Catalog 45-A describing Light Metal Tricot Beams made in Standard and Special sizes plus Special Purpose Light Metal Textile Equipment.—MILTON MACHINE WORKS, INC., Milton, Pa.

823. VARIABLE STRIPER — Booklet available describing Supreme's complete line of Automatic Variable Stripers and Pattern Placer Machines. — SUPREME KNITTING MACHINE CO. INC., 105 Johnson Ave., Brooklyn 6, N. Y.

828. THE KIDDE KNITTER — Bulletin describing this newest in Raschel-type warp knitting machines and higher production attained with it. — KIDDE MANUFACTURING CO., INC., Farrand St., Bloomfield, N. J.

SEWING MACHINES . . .

924. BUTT-TACKING SEWING MACHINE — Booklet describes an operating installation of the Merrow single thread butt-tacking sewing machine. Gives performance data, and advantages of butt-tacking. — THE MERROW MACHINE COMPANY, 28 Laurel Street, Hartford, Connecticut.

925. SEWING MACHINES — The Lock-Stitch bulletin No. 258 describes and illustrates new, high speed, single needle Union Special Lock-Stitch machine for general purpose industrial sewing operations. — UNION SPECIAL MACHINE CO., 407 N. Franklin St., Chicago 10, Illinois.

1000. MATERIALS HANDLING SPECIALS — Color Booklet by Kennett Equipment and Machinery Co., describes their complete line of materials handling devices. — KENNETT EQUIPMENT AND MACHINERY CO., Kennett Square, Pa.

MATERIALS HANDLING . . .

1003. CASTERS AND WHEELS — 192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this. — DARNELL CORP., LTD., Long Beach 4, Calif.

1006. LANE CANVAS BASKETS — 16 page illustrated booklet describing the Lane line of canvas baskets for textile use. — W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007. OVERHEAD HANDLING EQUIPMENT — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem. — THE AMERICAN MONORAIL CO., 13106 Athens Ave., Cleveland 7, Ohio.

1008. CASTERS AND WHEELS — An illustrated booklet with complete specifications showing a complete assortment of Cotton Textile Casters. — THE COLSON CORP., Elyria, Ohio.

1010. CONVEYOR KEY BOOK — A guide to production "step-ups" now possible with modern conveying. Shows time-and-effort savings. Well illustrated with photos showing plant layouts and sketches showing where, how and why different types of conveyors are used for maximum results. LOGAN CO., 1115 Franklin St., Louisville, Ky.

1011. TEXTILE TRUCKS — Booklet describing doff boxes, frames and trucks, yarn, waste, platforms, conditioning, steep lap, floor, utility trucks, etc. Uses and description. — EXCEL TEXTILE SUPPLY CO., Lincolnton, N. C.

1013. "A STORY OF TRACTOR TOOLS AND THEIR USE." — Comprehensive illustrated guide effectively present in cartoon-style the many principal uses for this type of equipment. — HYSTER CO., 2903 N.E., Clackamas St., Portland 8, Ore.

1030. CDF RECEPTACLES — This 32-page catalog, R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item. — CONTINENTAL-DIAMOND FIBRE CO., Newark 11, Del.

1032. ELECTRIC CHAIN HOISTS — Bulletin 852 describing Robbins & Myers Type "JC" Electric Chain Hoists. Capacities 500, 1000 and 2000 pounds. —ROBBINS & MYERS, INC., Hoist & Crane Div., Springfield, Ohio.

MISCELLANEOUS . . .

1102. BALING PRESSES — An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models. — ECONOMY BALER CO., Ann Arbor, Mich.

1103. UNBRAKO SCREWS — Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data. — STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1108. FABRICATION OF U. S. STAINLESS STEELS — 136-page book covering use of stainless steel in textile equipment from cutting to cleaning. Includes corrosive-resistance tables for chemicals. — CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh, Pa.

1111. BRUSHES — A 26-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry. — GASTONIA BRUSH COMPANY, Gastonia, N. C.

1112. THE RANDOM WEB PROCESS — Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines, and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cut-away diagrams. — CURLATOR CORPORATION, Textile Division, 565 Blossom Rd. Rochester, N. Y.

1113. MACHINE KNIVES — Catalog and price sheets describing this company's line of knives for use on textile machinery. — TAYLOR-STILES & CO., 21 Bridge St., Riegelsville, N. J.

1115. TEXTILE WRAPPING MACHINES — Brochure describing automatic wrapping machines for various types of textile products, including the new Hayssen V-Type Underfold, most protective package made. HAYSSEN MANUFACTURING CO. Sheboygan, Wisconsin.

1122. BALING PRESSES — Bulletins available describing this company's line of motor driven and hydraulic baling-presses for finished-goods, textile fibers, wool, and waste of all kinds. — LOGEMANN BROTHERS CO. 3150 West Burleigh St., Milwaukee, Wis.

NEW Equipment AND MATERIALS

(Contnued from page 198)

New Books

The Modern Textile Dictionary, by George Linton, contains over 12,000 terms covering all phases of the textile and allied industries. Its scope ranges from apparel to asbestos; from fiber to finish; from the history of costume, fashion, and style to management and labor; from lace to laundry practice; from plastics to spot removers; and the proper care of clothing. Pictures, diagrams and flow charts, weave constructions, and data, and other illustrative matter are included in this 772-page cloth bound book. Published by Little, Brown & Co., 34 Beacon St., Boston 6, Mass., in association with Duell, Sloan & Pearce. Price, $12.50.

Techniques That Produce Teamwork has just been published by Arthur C. Croft Publications, 100 Garfield Ave., New London, Conn. (Price, $2.50). A study in group dynamics for industrial and other administrators, this book through example and explanation shows how to develop team spirit; how to successfully apply the system of overlapping staff teams; how this system develops the skills of subordinates and promotes loyalty to the organization.

The third edition of *Starch and Its Derivatives*, by J. A. Radley, has been published by John Wiley & Sons, Inc., 440-4th Ave., New York 16, N. Y. Consisting of two volumes priced at $10.00 each, this edition has been revised to keep this standard work as complete and as up-to-date as possible in the light of achievements during the past eight years in the solution of problems of starch structure, chemistry, and behavior.

Successful Commercial Chemical Development, prepared by the Commercial Chemical Development Association, provides the essential principles necessary to the successful production and marketing of a commodity. It includes what is described as a unique presentation of all the development stages and the degree to which various factors that determine new product desirability must be explored and developed if waste of capital and manpower is to be avoided. Publisher, John Wiley & Sons, Inc., 440-4th Ave., New York 16, N. Y. Price, $7.75.

Textile Quality Control Papers, edited by D. S. Hamby and published by Textile Division, American Society for Quality Control at the School of Textiles, N. C. State College, Raleigh, N. C., contains 17 papers on textile quality control and a lengthy bibliography of references on the subject. The papers, illustrated with charts and tables, deal with elementary and advanced aspects of statistical quality control, human aspects of quality, fiber testing programs, quality from the consumer's point of view, and quality in yarn and fabric production. 140 pages, paper bound, price—$4.00.

Plastics Engineering Handbook of The Society of the Plastics Industry, Inc., is said to be the most complete compilation of engineering knowledge ever published on the design, materials, and processing of plastic products. The 1947 edition has been completely rewritten. Complete chapters of all new material have been added, such as one on tooling with plastics. A special fold-out adhesives chart gives types and characteristics of adhesives used to join plastics to each other or to other materials. Publisher: Reinhold Publishing Corp., 430 Park Ave., New York 22, N. Y. Price, $15.00.

The 1954 edition of the National Safety Council's statistical yearbook, *Accident Facts*, gives ideas for making speeches, writing articles, preparing reports, and planning safety campaigns. A 96-page book, it contains facts and figures on all types of accidents. Price, $.75 single copy. Write to the Council at 425 N. Michigan Ave., Chicago 11, Ill.

Wool: Its Chemistry and Physics, by Peter Alexander and Robert F. Hudson, English textile chemists, is a comprehensive treatment of the chemical, physical, and biological characteristics of wool. Practical industrial applications of the basic physics and chemistry are explored. Diffusion processes and molecular adsorption are treated in detail. Published by Reinhold Publishing Corp., 430 Park Ave., New York 22, N. Y. Price, $10.00.

Practical Refractometry by Means of the Microscope, by Roy M. Allen, is a text on the determination of indices of refraction of solids by microscopical methods. Published by R. P. Cargille Laboratories, Inc., 117 Liberty St., New York 6, N. Y.

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Made to withstand rough handling. Hemispherical bowl of #16 gauge 18-8 stainless steel with #16 gauge stainless tapered handle-socket welded on. Capacities 1 pint to 4 quarts. Handle of 4 quart size reinforced. Send for Bulletin 7030.

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Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, rolls, hoods, tanks

Personal NOTES ABOUT MEN YOU KNOW

(Continued from page 54)

S. C., which is being expanded and equipped for the production of velvet carpets. He was formerly general manager of the Quitman (Ga.) Mills. **Allen Mirenghi,** formerly manager of the company's velvet division in Yonkers, N. Y., has been named to the position of general superintendent of the new Liberty plant. * * * **Frank H. Higgins,** former vice-president of Alexander Smith, Inc., was recently sworn in as Assistant Secretary of the Army for logistics, research and development by Secretary of the Army Robert T. Stevens, former board chairman of J. P. Stevens & Co., Inc.

At the Southern Regional Research Laboratory, New Orleans, La., **Edmund M. Buras, Jr.,** and **Leon Segal** have been promoted to chemists in charge of cotton research units of the Southern Utilization Research Branch. Mr. Buras is doing research on the chemical modification of cotton, and Mr. Segal is conducting research on the fine structure of the fiber. * * * **Elias Klein** has joined SRRL as a chemist in the Chemical Properties Unit of the Cotton Fiber Section. He was formerly instructor at Tulane University.

W. M. Mitchell, formerly director of research for the cotton and spun fibers division of J. P. Stevens & Co., Inc., has joined Amerotron, Inc., as head of research, quality and technical control.

Organizational changes at the Standard-Coosa-Thatcher Co. are: **John P. Harrison,** formerly agent and superintendent of the Coosa plant is vice-president in charge of manufacturing for all plants; **C. B. Bennett** continues in his present position of assistant treasurer and manager of the roving yarn division, and also is now serving as the local legal agent for the Coosa plant. **R. E. Hamrick** is now superintendent of the Coosa plant; and **J. T. Formby** has been made assistant superintendent of this division of the company.

Promotions at Textron Inc. are: **J. B. Tollison,** division manager of the spun division, succeeding **W. Whipple,** resigned; **Hanns Bard,** general superintendent of the spun division, and **A. Phillips,** division manager of the Williamston Rayon, Peerless, and Honea Path filament plants has assumed the additional responsibility of division manager of the Williamston throwing plant. Mr. Tollison remains division manager of the Hartwell (Ga.) weaving plant.

New superintendent of Thistle Fabrics, Oxford, Mass., is **William H. Rigney. Abel Caissie,** proprietor of Caissie Yarn Co., is acting as overseer of spinning.

Herbert West has been promoted to overseer of the carding department at Union-Buffalo Mills, Buffalo Plant, division of United Merchants and Mfrs., Inc., at Union, S. C.

After 30 years of service with the U. S. Rubber Company's Stark Mill, Hogansville, Ga., **W. P. Wilkes** has retired. **J. S. Jones** becomes control manager of Stark and Reid Mills, succeeding Mr. Wilkes.

Recently announced changes and reassignments at United Merchants & Manufacturers, Inc.: **Carl Boggs** has been placed in charge of Bath (S. C.) Mills and Seminole Mills, Clearwater, S. C., and retains supervision of Elberton (Ga.) Mills and the Statesville, N. C., division of Seminole Mills. **Z. B. Lane, Jr.,** manager of Clarksville (Ga.) Mills, has also assumed supervision of United Rayon Knitting Mills, Old Fort, N. C.

William E. Jackson, formerly manager of Verney Corp.'s finishing plant at West Peterborough, N. H., is now superintendent of Greenville (R. I.) Finishing Co.

Directors of Woodside Mills, Greenville, S. C., have elected **Charles A. Gibson,** director of manufacturing for the Ely & Walker Dry Goods Co. mills, to the board, succeeding E. P. Cave. Two assistant vice-presidents were also elected: **B. F. Tipton,** in charge of raw materials purchases; and **D. E. Cromwell,** purchasing agent.

William P. Tukey, formerly superintendent of the recently liquidated Blackstone, Mass., mill of Textron, Inc., is now superintendent of Hope Webbing Co., Pawtucket, R. I.

J. A. Murphy, formerly general superintendent of the Roanoke plant of Burlington Mills Corp., is now located in Vinton, Va., as textile consultant.

James Lawton is now vice-president in charge of all dyeing and

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Personal NOTES ABOUT MEN YOU KNOW

finishing operations for A. Wimfheimer & Bros., Stonington, Conn.

Alton Smith, formerly carder at Yantic (Conn.) Woolen Mills, is now with Walaine Woolen Mills, Baltic, Conn., in a similar capacity. * * * **E. I. Damon** succeeds Raymond R. Boushee, as agent for the mills. Mr. Damon was formerly superintendent of the Broad Brook (Conn.) Co., now liquidated.

Obituaries

Nathan Alper, retired knitgoods manufacturer.

Johannes M. Boehme, Sr., superintendent of Skyland Hosiery Mill.

Robert G. Campbell, 72, retired president and general manager of the former Walcott Spinning Co., New York Mills.

Frederic L. Chase, 84, former president and secretary of the National Ring Traveler Co.

W. Stanley Davis, 72, board chairman of Jamestown Mills Co., and secretary-treasurer of Phillips Davis Co.

Dikran A. Diradourian, manager of spinning division at Roselle Park, N. J., plant of A. & M. Karagheusian, Inc.

R. B. Dorman, 70, retired textile supply businessman.

Victor A. Hanson, vice-president and general manager of Precision Gear and Machine Co., Inc.

Samuel P. Kaplan, 61, executive vice-president of the Knitted Outerwear Manufacturers Association, New England District.

Robert E. Keller, 31, card room overseer,,

Robert S. Phillips, 68, president, Phillips Knitting Mills, Inc.

Charles H. Reid, 63, vice-president and secretary of Wasnington Mills Co.

Edward B. Ryder, 56, chief engineer of Apponaug (R. I.) Co.

R. D. Sanders, 54, owner, Sanders Industries.

W. E. (Bill) Williams, general superintendent, Sylacauga plants, Avondale Mills.

What the TEXTILE MILLS are doing

A sales, purchasing, and service organization designated as **Amerotron, Inc.,** has been organized as a joint interest of **American Woolen Co., Textron, Inc.,** and **Robbins Mills, Inc.**

Substantial stock interest in **Anniston (Ala.) Mfg. Co.** has been acquired by Hesslein & Co., New York cotton merchants.

Recently incorporated to manufacture textile products was **Annhope Textiles, Inc.,** of Cumberland, R. I.

Announcement has been made of the merger of the **Charles H. Bacon Co.,** hosiery manufacturer of Lenoir City and Loudon, Tenn., and the company's sales agency, the Bacon-Scott Co. The sales agency is now designated the Bacon-Scott division of the Charles H. Bacon Co. According to James R. Scott, executive vice-president, purpose of the new arrangement was to put into effect plans for increased efficiency in service to the company's customers, and for increased sales coverage.

Bantam Tricot Mills Corp. has been chartered to operate a tricot knitting mill in Hartford, Conn. Abraham Feinberg is president and Richard T. Steele attorney.

Interests representing **Barberry Mills,** Lakeport, N. H., have purchased the building formerly occupied by H. H. Woods Hosiery Mill in Lakeport. Barberry Mills will use the building for expansion.

Expanded operations are planned by **Camp Manufacturing Co.,** Waynesboro, Va., at the Wortendyke plant.

Construction of a one-story building on a tract of land near U. S. Highway 46, South Hackensack, N. J., has been arranged for by **Belding Corticelli, Inc.,** New York, N. Y. Having about 45,000 sq ft of floor space, it will be used as a factory branch, storage, and distributing plant. The present branch plant at Clifton, N. J., will be moved to this

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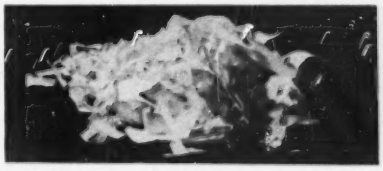

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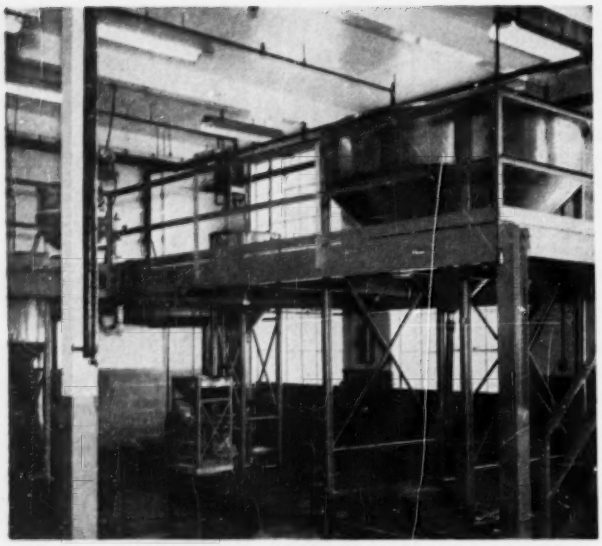

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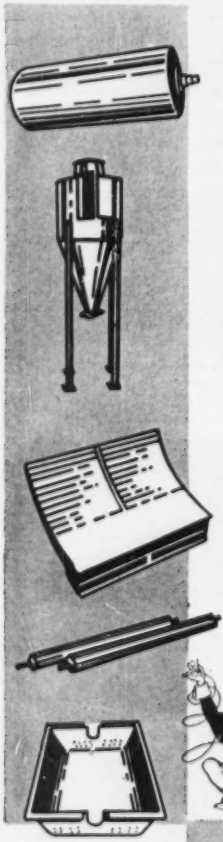

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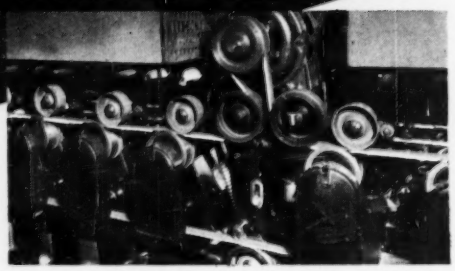

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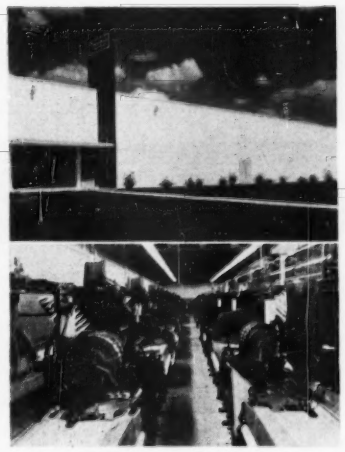
What the TEXTILE MILLS are doing

new location early in 1955 when it is expected that the construction will be completed.

Coast Manufacturing & Supply Co. of Livermore, Calif., weavers of Trevarno glass fabrics, has announced its expansion into a new, larger, and more modern weaving plant at Seguin, Texas. According to Ralph E. Merritt, president, the home offices, research, and development departments, and the finishing, coating, and impregnating operations will remain at Livermore. The Texas location for the new weaving plant was chosen, he said, because it was more



EXTERIOR VIEW of the new Coast Manufacturing & Supply Co., glass fabrics weaving plant at Seguin, Texas, is presented in the upper photo. Below, a portion of the 86 dobby looms which range in size from 44" to 72".

centrally located for national distribution of the company's products. The new plant, which represents an investment of $750,000 in building, machinery, and inventories, will produce 250,000 yards of fabric monthly when at capacity production, and will employ 100 people. Plant superintendent at Seguin is Laud Walters; he is assisted by Hershel Saunders. Both of these men came to the new plant in Seguin from Livermore.

A new broadcloth for men's shirts, made of 65 per cent Dacron and 35 per cent Egyptian cotton, will be produced and marketed by **Burlington Mills Corp.**, Greensboro, N. C., according to reports. * * * A one-story addition to the corporation's seamless hosiery mill at Harriman, Tenn., has been planned. * * * The Franklin, N. C., Chamber of Commerce has announced that a hosiery mill involving an ultimate investment of some $3 million will be erected by Burlington in Macon County about three miles from Franklin on Highway 23.

Production facilities at **Butler Hosiery Mills, Inc.**, Hartsville, S. C., are to be expanded. Construction to provide additional floor space has already been contracted for, and upon completion of this approximately $500,000 worth of equipment will be installed.

Cadillac Mills, Inc., is a new integrated worsted mill resulting from the consolidation of **Merrimac Mills, Gaunt Worsted Mills,** and **Newman Yarn Mills,** all of Methuen, Mass. Ira Ross of Atlanta, Ga., is president and Ira E. Newman, formerly president, treasurer, and general manager of Newman Yarn Mills, is general manager of the new company.

A contract for the construction of a one-story addition to the mill of **Clearwater Finishing Co.**, Clearwater, S. C., has been awarded. It will be used as a warehouse.

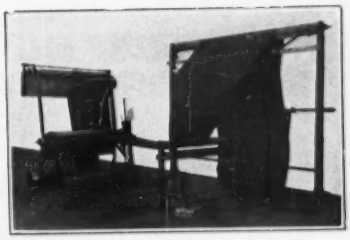
A pre-Civil War cotton mill was recently burned to the ground in Easton, Pa., by order of its owners, while firemen stood by to keep the blaze under control. The ancient landmark had been declared an eyesore.

Increased facilities for sweater manufacture have been provided at **Universal Dye Works, Inc.**, Philadelphia, Pa.

Controlling interest in **Colonial Piece Dye Works, Inc.**, North Bergen, N. J., has been purchased by Dean M. Lewis, secretary-treasurer, from William Knipscher, founder and president for the past 22 years. According to Mr. Lewis, the only changes to be made in the immediate future will be his ascending to the presidency and the appointment of his son, Dean Jr., as secretary.

Conover (N. C.) Fabrics, Inc., recently organized to manufacture upholstery fabrics, has begun operations in a building secured under lease. It is anticipated that production will be increased in the near future.

Dufresne Yarns Ltd., is a new specialty yarn manufacturer for the apparel industry, located in Montreal East, Quebec, Canada. President of the company is Theodore E. Dufresne who was, for the past 18 years, sales manager of Robison Rayon Co., of Pawtucket, R. I. Other officials are:



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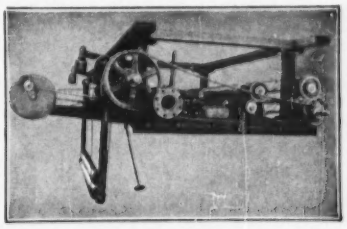

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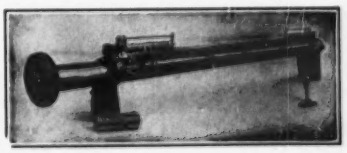

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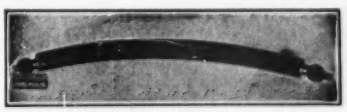

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What the TEXTILE MILLS are doing

Aldor J. Petit, vice-president; and Frederick J. Knight, secretary-treasurer. The majority of the yarn will be manufactured from man-made fibers, according to the announcement.

The mill and office buildings and water rights of the former **Faulkner & Colony Mfg. Co.,** Keene, N. H., have been sold by the RFC to Barker Realty Co. of Keene. The machinery previously had been sold to American Mills.

"Stretch" panties are being manufactured by **Fieldcrest Mills.** They are made of Helanca nylon yarn, in one size which will stretch to fit sizes 4 to 7. These panties come in two colors; white and blue.

Machinery and parts, consisting of spindles for existing machines, equivalent to 100,000 or more spindles are being purchased by **Deering, Milliken, Inc.,** from a Swiss textile machinery manufacturer. This is one of the biggest textile machinery purchases ever made by an American mill from a European manufacturer.

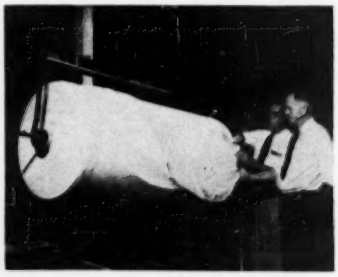
The machinery at **Goodall-Sanford, Inc.'s** Mill B in Sanford, Me., has been sold, and the building containing about 1 million sq ft of floor space is up for sale. A company spokesman said that the machinery was no longer needed by the company since the decision to cease operations at Mill B.

Hale Manufacturing Co., East Killingly, Conn., is a new textile mill making silk and synthetic yarns on the woolen system. Occupying the plant of the former Greig Mills, it is headed by Laurence Hale, formerly president of Paul Whitin Mfg. Co. Mr. Hale is president and treasurer. Thomas Reid, formerly treasurer of Greig, is vice-president and general manager.

A two-story addition, approximately 133 ft by 350 ft, to be connected to its present building, is being planned by **Hanes Hosiery Mills Co.,** Winston-Salem, N. C. Included will be locker room facilities and an enlarged medical department. The additional manufacturing facilities will enable the company to keep abreast of increasing demands for its products, the announcement indicated.

The Wachovia Museum in Old Salem, the N. C. town which was founded in 1766 to be the foundation for the present Winston-Salem, was recently remodeled and enlarged with funds provided by the **P. H. Hanes Knitting Co.** R. Arthur Spaugh, Jr., president of Old Salem, Inc., and president of the Washington Mills Co., who presided at the reopening ceremonies, said the Hanes Co. had made "an investment in the educational future of this community."

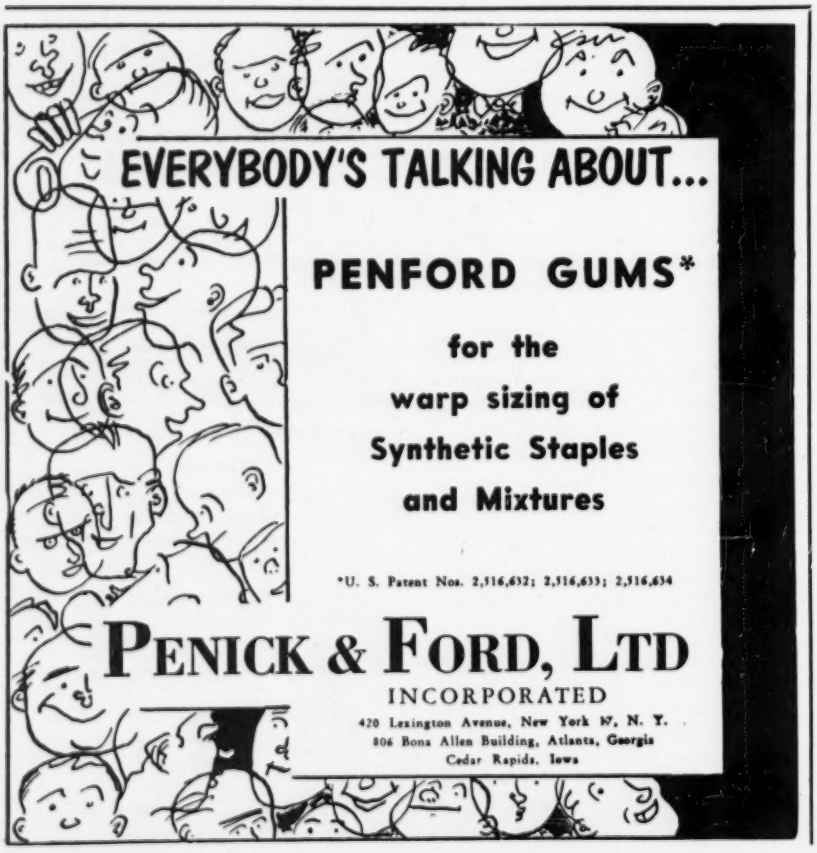
More than 400,000,000 lb of tire fabric have been produced at **Goodyear Tire and Rubber Co.'s Clearwater Mill No. 3** at Atco, near Cartersville, Ga., since it went into production in 1929, Russell De Young, vice-president of the company in charge of all production, told the 5,000 employees, members of their families, and visitors from all over Georgia and the company's headquarters in Akron, Ohio, who came to the 25th Anniversary celebration of the plant at Atco recently. Mr. De Young said that the plant had doubled its original 500 employees and that its payroll had increased 500 per cent since it first went into production. The two-day celebration was climaxed by a long parade, exercises on the school athletic field at which Mr. De Young and others spoke, and an outdoor barbecue. Nearly 60 employees were presented with 25-year service pins during the ceremonies.

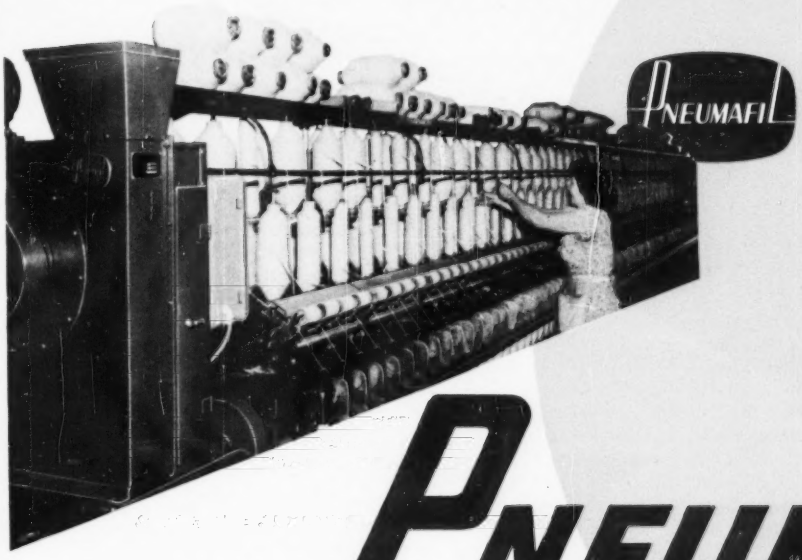


NYLON TIRE FABRIC containing the 400 millionth pound to be produced at Goodyear Tire & Rubber Co.'s Atco, Ga., mill. W. E. Floyd, assistant superintendent of the mill, and S. A. Steere, vice-president in charge of Goodyear's textile mill division, are inspecting the fabric.

Hosiery yarns are being produced by a new textile manufacturer in Rutherford, N. C. The name of the firm is **Harrell Yarn Co.**

A $1,500,000 machinery modernization and plant expansion program at **Harriet Cotton Mills, Inc.,** and **Henderson Cotton Mills, Inc.,** Hen-





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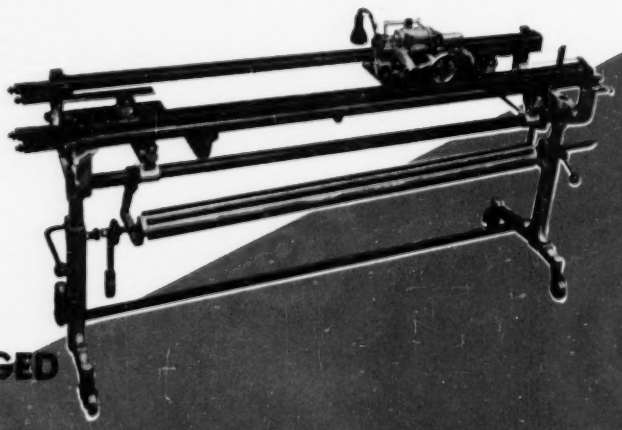
the trend is to USTER



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What the TEXTILE MILLS are doing

derson, N. C., has been planned. Approximately $1,000,000 of this will be allotted to Henderson Mills and the remainder to Harriet Mills. Included in the plans for Henderson is a 20,000 sq ft addition to accommodate roving frames. Some new machinery will be added to the mills and new parts applied to existing machinery.

A special fiber glass research and development division has been established by **Hess, Goldsmith & Co., Inc.,** under the direction of Dr. Jayanti Dharma Teja, former vice-president of Mystik Adhesive Products Co. Established with a view to furthering the application of glass textiles in decorative and industrial use, the new division will dedicate its attention to the improvement and further development of weaving and finishing techniques, and to the physical and chemical investigation of glass cloth in combination with other basic materials.

Abney Mills has purchased **Hunt Loom & Machine Works, Inc.,** in a receivership sale with a bid of $400,000. Abney, which purchased control of Hunt in 1950, will continue to service the approximately 4,000 Hunt looms now in mills, will manufacture parts, and will conduct a sales campaign to place more of the looms in other mills.

The physical assets of **Huntington (Mass.) Textile Co., Inc.,** have been sold at public auction.

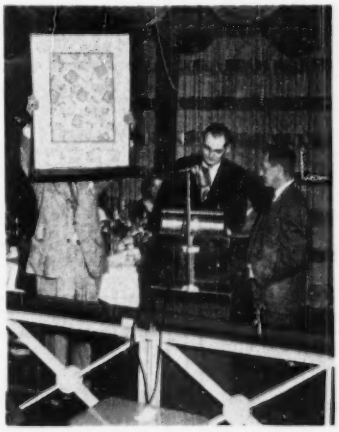
Hadley Corp., Weaverville, N. C., knitters of full-fashioned sweaters, has purchased three new full-fashioned sweater knitting machines.

A new circular knitting plant in Daisy, Tenn., is **Hill's Hosiery Mills.** Misses', boys', and men's anklets are being manufactured.

Increased production is planned by **Archibald Holmes & Son,** Philadelphia, Pa., wilton rug manufacturer. As soon as a new one-story warehouse now under construction on an adjoining site has been completed, the present warehouse will be removed to the new building and new looms and other equipment installed in the vacated space.

The **Marijon Dyeing & Finishing Co., Inc.,** Passaic, N. J., which has recently been organized, has leased the Toscony Dyeing & Finishing Co. plant at 35 Eighth St., and will operate a commission dyeing and finishing business. Officers are: Edward Hutton, president; John Liddle, vice-president and dyer; Kenneth Santillo, secretary; and Joseph Nantista, treasurer.

M. Lowenstein & Sons, Inc., introduced a new "Dusty Rhodes" fabric at their testimonial dinner for the Giant hero at the Astor Hotel in New York on October 4 (in picture frame at left in photo). Mr. Rhodes, an off-season employee of Lowenstein's Rock Hill Printing and Finishing Co., stands behind the microphone. Left, behind the fabric, Lester Cone, merchandise manager of Lowenstein's Wear-Ever Division; right, Edward Freed, recreation director for the Rock Hill plant. Highlight of the occasion came when board chairman



Leon Lowenstein announced that plans were rapidly being made to permit Dusty to "pinch-hit against juvenile delinquency." Mr. Lowenstein said "Rock Hill is proud of its native son, Dusty Rhodes, the hero of the 1954 World Series. But Jim belongs to all America today and, like Babe Ruth, we know he stands for fair play and good sportsmanship in the eyes of millions of American boys and girls. We are trying to work out a plan by which Dusty can be in touch with youth groups and play an active role in what all these groups are doing today to combat the rising rate of juvenile delinquency."

Klopman Mills, Inc., Asheboro, N. C., has terminated its commission weaving arrangement with Burlington Mills by leasing two of Burlington's plants: one at Central Falls, the other in High Point, N. C.

Lincolnton Mills, Inc., is the new name of a North Carolina corporation chartered last April to engage in wool spinning in a plant to be constructed in Lincolnton, N. C. Webster Mills

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Inc., was the name first assigned. Fred S. Haslam, of Worcester, Mass., is listed as president, and Harvey Jonas, Lincolnton, as secretary. Mr. Haslam is president of the Bell Co. and Mr. Jonas is an attorney.

Louisville (Ky.) Textiles, Inc., has been acquired by United Industrial Syndicate, Inc., New York, N. Y. Operations will be maintained without change, and all present officers will continue to serve. Harry Lebensfeld, president of United Industrial Syndicate, has been elected chairman of the board.

Illinois Shade Cloth Corp., Chicago Heights, Ill., has underway an expansion program designed primarily for increased distribution, converting, and allied service.

Johnston Mfg. Co., Charlotte, N. C., has instituted a modernization program to cost about $1,000,000 for machinery and equipment. No plant expansion is involved.

Jacquard Mills, Morganton, N. C., operating in former local plant of Ross Fabrics, Inc., is installing additional looms for weaving of upholstery fabrics.

Levi & Rottenberg, Inc., manufacturers of knitted fabrics, has been liquidated after 30 years of operation, it was announced by Albert I. Levi, president and treasurer.

A one-story branch mill will be constructed by **Munsingwear, Inc.,** Minneapolis, Minn., in Vinita, Okla. It will measure 150 x 245 ft and the approximate cost is $325,000.

Nylon filament yarn will be manufactured by **Tally Yarn Corp.** of Brooklyn, N. Y., which was recently chartered with capital of 200 shares of stock, no par value. Attorney and representative for the company is William Pollack, 231 Brightwater St., Brooklyn.

Two new additions are to be constructed at **Micolas Cotton Mills** in Opp, Ala. — one on the west side of the existing plant connecting with the weave room, and the other on the east side to the card room. Upon completion of construction, 200 new looms will be added, bringing the mill total to 733 looms and 27,676 spindles with other machinery in proportion. Employment for 125 more operatives will be provided by the expansion.

Production of elastic yarn for men's hosiery is planned by **Monarch Processing Co.,** Burlington, N. C., around January 1, 1955, according to an announcement by Clyde W. Gordon, formerly with Standard Hosiery Mills. Mr. Gordon will be associated in this enterprise with John W. Kesiah, secretary and treasurer, and J. Ralph Overman, president, both of Monarch Hosiery Mills of Graham, N. C. About 10,000 spindles are included in the machinery purchased for this new plant, which represents an investment of approximately $100,000.

Cotton knit goods, including infants' and children's wear, T-shirts, and underwear, are being manufactured by **Midland (N. C.) Mills of North Carolina, Inc.,** recently chartered with authorized capital stock of $100,000. Philip Gesoff, former president of General Knitting Mills, Inc., and Leon Semanoff of Allentown, Pa., are officials of the corporation.

A scholarship providing financial assistance up to a limit of $1,000 a year to an employee or employee's son or daughter to assist them in obtaining the advantages of a higher education has been established by **Riegel Textile Corp.** Designated the Benjamin DeWitt Riegel Memorial Scholarship in honor of the founder of the company, it is to be used in obtaining a four-year course of college education leading to a degree at an accredited college or university of the individual's own choosing. The first scholarship under this plan will be awarded in 1955. * * * Plans are being made by the company for construction of a hanger at the Greenwood, S. C., airport to house its plane which is used to fly officials on business trips to its plants at Ware Shoals, Trion, and Rome, Ga., Greenville, Ala., Wilmington, N. C., and New York. The plane is fitted out as a flying office with work tables for its four passengers.

Printed Fabrics Corp., a subsidiary of Linen Guild, Inc., New York City, is now in production in one of the buildings formerly occupied by Mandeville Mills in Carrollton, Ga. Present plans call for employment of about 300 persons by March of 1955. Paul W. Kase, formerly of Scranton, Pa., is president of the new enterprise. John T. Montague of the parent

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What the TEXTILE MILLS are doing

organization in New York City is treasurer.

Real estate, machinery and equipment of **Priscilla Worsted Mills,** Thornton, R. I., have been sold at public auction.

Tapes, bindings, and other narrow fabrics, will be manufactured by the recently chartered **Rhode Island Tapes Co., Inc.,** Pawtucket, R. I. Principal incorporator and representative is Owen P. Reid, 307 Newman Ave., Rumford, R. I.

A modernization program involving an expenditure of about $70,000 is under way at **Roberta Mfg. Co.,** Concord, N. C. Three new slubbers will be installed; also, long draft, large package spinning.

Production of **Rocky Creek Mills, Inc.,** Turnersburg, N. C., has been changed from cotton yarns to coarse rayons for the carpet trade. According to an announcement, the charter has been amended so that the new name of the company will be **Henkel Mill Co.**

Conditional permission has been granted to **Rock Hill (S. C.) Printing & Finishing Co.** to dump an additional 2 million gallons of waste a day into the Catawba River. The firm now discharges about 13 million gallons daily into the Catawba. Plans for a $2 million expansion hinged on a favorable ruling by the State Water Pollution Control Authority. Approval was contingent upon the city of Rock Hill making an engineering study leading to installation of an adequate waste treatment plant.

Spring City (Pa.) Knitting Mills is constructing a mill which will have 30,000 sq ft of floor space and be situated on a 20-acre site.

Staley Hosiery Mill Co., Staley, N. C., has disposed of the machinery and equipment of the tornado-damaged mill at public sale.

The Schwarzenbach Huber Co., New York, N. Y., has entered into an agreement with its affiliated textile mills in Italy and France to have exclusive use in the United States of designs for printed fabrics which have demonstrated their success in the European fashion field. All hand-screen-printed on full-bodied, yarn-dyed acetate taffeta, the fabrics are being offered on an exclusive basis to a limited number of dress manufacturers.

The shipping and packaging facilities of **The Vanta Co.,** subsidiary of Shawmut Inc., Stoughton, Mass., have been moved from Pawtucket, R. I., to Brockton, Mass. The company can now make consolidated shipments of both Banta and McKem knit goods lines.

A nurses' home has been donated at Shawmut, Ala., to the Chattahoochee Valley Hospital Society by the **West Point Mfg. Co.,** for use by the George H. Lanier Memorial Hospital.

Tex-Knit Corp., Brooklyn, N. Y., has been incorporated to manufacture outerwear. Julius Hirschfeld, 215 Montague St., Brooklyn, is attorney and representative.

The **W. Warren Thread Works Inc.** plant in Westfield, Mass., has been sold to the Strathmore Paper Co.

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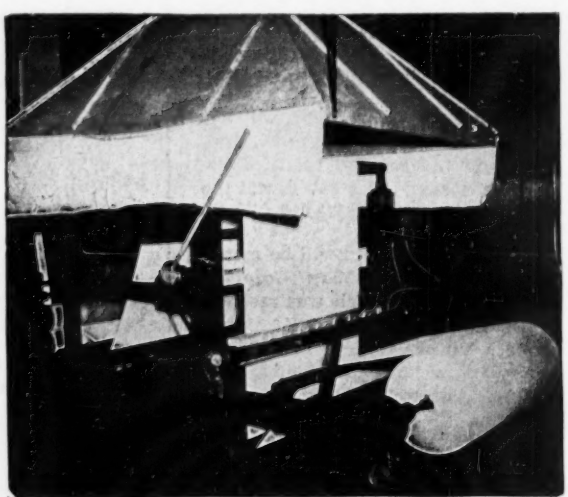

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SUPPLIERS News

WHAT THEY ARE DOING

Abington Textile Machinery Works has closed its Charlotte, N. C., and Atlanta, Ga., offices and has opened new offices in the Calhoun Towers, Greenville, S. C. Walter W. Watt, Jr., has retired as Abington's southern agent, and is succeeded by John W. Burbine, who will make his headquarters in the new Greenville office. W. W. Brame has been promoted from service engineer to assist Mr. Burbine.

Joseph Bowler, Jr., has opened an office in Greenville, S. C., as manufacturer's agent for **Allen Beam Co., Allen Warper Co.,** and **Allen-Thornton Corp.**

Roland J. Voith and Edward M. Joyner have been assigned to the Chicago and Atlanta district offices, respectively, of **Allis-Chalmers Manufacturing Co.,** general machinery division.

American Cyanamid Co. has appointed Martin B. Friedman to the advertising and sales promotion staff of its textile resin department.

American Viscose Corp. has announced the establishment of an acetate section in the research and development division at the company's Marcus Hook, Pa., research center. John A. Howsmon is leader of the new section.

All of the outstanding common stock of **Nuodex Products, Inc.,** has been acquired by **Heyden Chemical Corp.,** according to a joint announcement by the presidents of the two firms. Nuodex will be operated by Heyden as a separate division, under its present management.

Joseph P. Hester of High Point, N. C., has been chosen to receive a scholarship awarded by the **Carbide and Carbon Chemicals Co.,** South Charleston, W. Va., a division of the Union Carbide and Carbon Corp. Mr. Hester, a leading student at the School of Textiles, North Carolina State College, has been selected for the award from competition with other seniors enrolled at the institution. The scholarship is valued at $200 cash, plus all tuition and college fees. Ernest K. Sherrill of Hudson, N. C., has been selected as the recipient of the $400 scholarship given by the **American Enka Corporation;** and Harry H. Yarbrough, Jr., of Wilson, N. C., is the 1954 winner of the $500 **American Viscose Corporation** scholarship. All scholarships are to the School of Textiles, N. C. State College.

Ernest D. Key, Jr., was recently elected executive vice-president in charge of sales and manufacturing of **Monticello (Ga.) Bobbin Co.** A new

Mr. Key

warehouse and dry kiln for raw stock, as well as additional equipment, have been announced by the company which is back in production after a large fire this summer.

Work has begun on a new 40,000 sq ft plant for the **Colson Corp.** at Elyria, Ohio. The new plant is a mile and a half from Colson's main factory, and is to be completed soon.

Plans have been approved for an immediate doubling and a possible eventual tripling of the production capacity of the Le Moyne, Ala., plant of **Courtaulds (Alabama) Inc.** The present plant was designed to produce 50 million pounds of viscose rayon staple annually.

Recently joining the sales staff of **W. H. Bagshaw Co., Inc.,** Nashua, N. H., is Arthur P. (Art) Sommer. He formerly served as sales manager for Wm. Crabb Co. of North Carolina.

L. A. DePolis has been appointed general sales manager of the Industrial Truck Division of **Clark Equipment Co.**

The Southern Association of Science and Industry recently elected Dr. Frank J. Soday its president. Dr. Soday is vice-president and director

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SUPPLIERS News
WHAT THEY ARE DOING

of research and development for the **Chemstrand Corp.** * * * J. Fred Murray has joined Chemstrand in a sales capacity in New York. He was formerly with Fox-Wells & Co.

Cooper Alloy Corp. is the new name of the former Cooper Alloy Foundry Co.

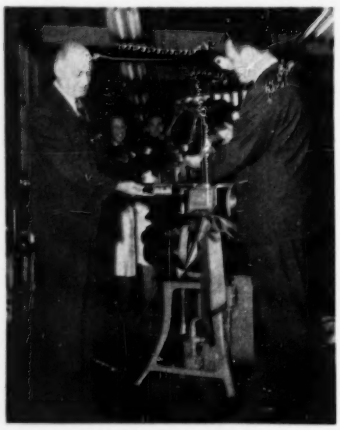
The Dixon saddle guide and other **Dixon Corp.** drafting components are now distributed throughout the South by R. E. L. Holt, Jr., and Associates.

Charles E. Burnham has been appointed assistant chief engineer of **Draper Corp.**

Fabric Research Laboratories, Inc., has broken ground for a new laboratory and office building in Dedham, Mass.

Fiberglass Box Co., Inc., has been formed at Ashtabula, Ohio. Products being manufactured include fiber glass-reinforced plastic doff boxes. Officers of the new corporation are J. Robert Newlon, president and treasurer; Cecil Caldwell, vice-president; and Theodore Warren, secretary.

Hemphill Co. recently completed the 100,000th hosiery knitting machine manufactured at its Pawtucket, R. I., plant. Dennis J. Roberts, governor of Rhode Island, officiated at a ribbon-cutting ceremony marking the event. The machine now forms an operating display in the window of F. W. Woolworth's Herald Square, New York, store.



GOVERNOR ROBERTS points to serial number 100,000 as B. R. Ebersman, Hemphill vice-president, holds overplaid argyle from machine.

Crompton & Knowles Loom Works has expanded into the chemical field with the purchase of the **Althouse Chemical Co., Inc.** The company will continue operations as a wholly owned subsidiary of Crompton & Knowles, with Dr. C. Scott Althouse and all other personnel of the Althouse company remaining in their present capacities. Further purchases are planned in C & K's current diversification program, with particular attention focused on mechanical automation equipment, complex packaging machinery, and home power tools.

Glass Fibers, Inc., has announced the appointment of Robert E. Simpson as Atlanta regional sales manager. He will supervise sale of the company's yarns and other products in ten southern states.

Gilman Paper Co. has announced the formation by its subsidiary, The Cellucord Corp., of a special division to handle sales, development, and

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production of Cellucord and Thermolok yarn. Sales offices are in Gilman, Vt.

Haas Miller Corp. has appointed the following sales representatives: John Lee, North Carolina and Tennessee; Norman McCall, South Carolina; and James Fortune, Georgia and Alabama.

Frank E. Newton has been appointed manager of the Pennsylvania Corrugated Box Division of **Robert Gair Co., Inc.**

Howard Bros. Mfg. Co. has appointed Charles A. Haynes northern manager in charge of sales and service to textile mills throughout New England, New York, New Jersey, and the West, extending south to Virginia. E. Jack Lawrence is now southern manager for sales and service to mills throughout the South.

Karl H. Inderfurth Co., Charlotte, N. C., has been appointed sales representative in the South for the **Original Bradford Soap Works, Inc.,** West Warwick, R. I.

John F. Larrieu has been named assistant vice-president in charge of the loan department of **William Iselin & Co., Inc.**

Raymond J. Walsh has been appointed New England representative for the **Metlon Corporation.** He formerly represented Deering, Milliken Co., in this same area.

Minneapolis-Honeywell Regulator Co. and AFL Teamsters Union, Local 1145, have launched a long-range attack on waste in production, from planning to actual output. Kickoff for the drive was a mass meeting at Minneapolis Auditorium, at which Air Force Secretary Harold E. Talbott was principal speaker. * * * Minneapolis-Honeywell has purchased the assets of Heiland Research Corp., Denver, Colo., which will be operated as a new Honeywell division.

Thomas E. Boyce, Joanna, S. C., is the 1954-55 recipient of a scholarship in textile engineering at Clemson College awarded by **Interchemical Corp.**

Gordon G. Rattray has been appointed by **Minnesota Mining & Manufacturing Co.** as sales representative to textile mills for Scotchlite reflective fabrics. His headquarters will be at 3M's Atlanta, Ga., branch office.

New Departure Division of General Motors Corp. has launched a new sales approach, in which key sales, manufacturing, engineering, and other personnel conduct on-the-scene discussions with customers at their own place of business.

The recent appointment by **Saco-Lowell Shops** of sales representatives specializing solely in replacement parts for all Saco-Lowell equipment marks the beginning of a new program designed by this machinery manufacturer to provide complete service to mills throughout the country. G. W. Kluttz and G. T. Mills have been assigned to the North Carolina areas, working out of Saco-Lowell's Greensboro and Charlotte, N. C., offices. W. R. Steppe, Jr., headquartered in the Atlanta, Ga., office, will service mills in Georgia and Alabama areas. Based in the Green-

Mr. Kluttz **Mr. Mills**

Mr. Steppe **Mr. Burnette**

ville, S. C., office, Joseph D. Burnette will assist mills within the South Carolina area. All of these parts specialists are engineers who have been carefully selected and trained so that they have a thorough and detailed knowledge of all the individual components of all of Saco-Lowell's many types of machines and also have an insight to the problems of inventory control, parts ordering procedures, identification and selection of the correct parts for specific models of machines. Parts depots are located in Biddeford, Maine, and in Sanford, N. C., so that delivery of over 75% of all replacement orders can be effected within 24 to 48 hours.

Newly elected vice-president of **James Talcott, Inc.,** is Robert J. England, formerly assistant vice-president. Paul Strick has been named assistant vice-president and head of the credit department of the company.

Work has begun on the new Milford, Conn., plant of the Bridgeport

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RUBBER TREADS . . . a wide choice of treads suited to all types of floors, including Darnelloprene oil, water and chemical-resistant treads, make Darnell Casters and Wheels highly adapted to rough usage.

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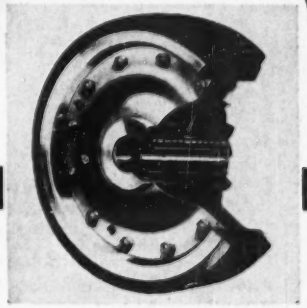

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SUPPLIERS News
WHAT THEY ARE DOING

Thermostat Division of **Robertshaw-Fulton Controls Co.** Upon completion the plant will contain 180,000 sq ft of floor space, and will manufacture metal bellows and controls utilizing bellows. The company's $1,000,000 research center at Irwin, Pa., was recently opened.

Robert Lawson, vice-president in charge of research and development for **Scott & Williams, Inc.,** Laconia, N. H., has resigned to devote his entire attention to Lawson Products Co., Providence, R. I., of which he is president. He will continue as a consulting engineer to Scott & Williams.

New manager of the Philadelphia branch office of the **A. E. Staley Manufacturing Co.** is Lester D. Borden, formerly territory manager in the Buffalo area.

Towmotor Corp. has completed a 155,000 sq ft addition to its Cleveland, Ohio, plant. The building will permit centralizing of departments now scattered throughout the city, and make space available for expanded research and development activities.

The Boston office of **Union Special Machine Co.** is now located at 179 Lincoln St. * * * The company recently completed construction of another addition to its Huntley, Ill., plant. * * * New Union Special sales representatives are: Richard A. Dean, western New York, western Pennsylvania, and northern West Virginia; Leroy E. Wise, Connecticut and part of New York; Norman E. Glisker, upper Manhattan, Bronx, Yonkers, and part of Long Island; and Augustus M. Buckley, northeastern Massachusetts, Vermont, New Hampshire, and Maine.

Mr. Dean **Mr. Wise**

Mr. Geisker **Mr. Buckley**

Assets and trade name of the **Gem Manufacturing Co.** have been purchased by **Plews Oiler, Inc.** Manufacture of most of the Gem line of products will be continued at the Minneapolis plant of Plews, retaining the Gem name.

Gerald M. Coxe, personnel director of **Universal Winding Co.,** has been elected secretary of the company.

Ray Norman, formerly with the Millbury, Mass., office of **Watson-Williams Mfg. Co.,** now represents Watson-Williams and **Watson & Desmond** at their Greenville, S. C., office.

Whitin Machine Works has made another step in its diversification program by undertaking the manufacture of a line of offset printing duplicating equipment.

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In 1854, ten years before the Battle of Atlanta, we started out as a small ironworks. Many communities and many mills secured their first elevated tanks for water supply from us. For the privilege of celebrating our Centennial, we express our appreciation for the friendship of four generations of customers, and the loyalty of four generations of workers.

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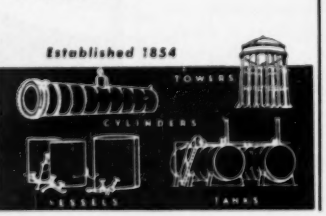
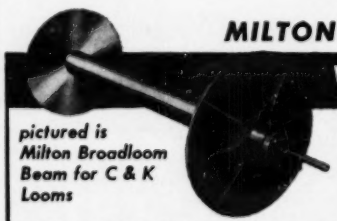


MILTON STEEL BARREL
WARP BEAMS



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News in Brief

(Continued from page 79)

Government Needs Textile Research Men. The U. S. Civil Service Commission has released a special plea for qualified applicants for positions as organic and analytical organic chemists involving fundamental and applied research in the utilization of cotton and other agricultural materials, and for physicists to do research in electron optics and the molecular structure and properties of cotton and related textile fibers. Annual salary range is $3410 to $7040. Persons who wish to apply should inquire at any post office for application forms or information as to where they may be obtained, or may obtain them by writing the Regional Director, 8th U. S. Civil Service Region, 1114 Commerce St., Dallas 2, Texas.

New Manager of NSC. Maj. Gen. George C. Stewart (Ret.) has been appointed general manager of the National Safety Council, a new post created to broaden top-level administration of the nonprofit accident prevention organization.

Recent Labor Decisions. Recent decisions of the Court of Appeals for the Eighth Circuit: A railroad common carrier is under a duty to make reasonable and bona fide efforts to provide shipping service requested by a picketed employer, and is liable for damages if it fails to do so.

An employer's act of conducting a poll of union sentiment among his employees by secret ballot did not constitute an unfair labor practice in and of itself.

The National Labor Relations Board has reaffirmed its doctrine that a certified union's majority status is conclusively presumed to continue for one year and that an employer must bargain with it despite defection by a majority of its members.—NAM Law Department.

Hosiery Exports Up. Exports of men's synthetic hosiery increased from 243 thousand dozens of pairs in the first 6 months of 1953 to 333 thousand dozens of pairs in the first 6 months of 1954. During the same periods, exports of men's cotton hosiery increased from 711 thousand dozens of pairs to 809 thousand dozens of pairs, and exports of children's cotton hosiery from 260 thousand dozens of pairs to 320 thousand dozens of pairs. Principal countries, in order of volume of imports from the United States during the first 6 months of 1954, were: men's synthetic hosiery, Philippines, Union of South Africa, Costa Rica, Lebanon, and Curacas; men's cotton hosiery, Philippines, Union of South Africa, Belgium and Luxembourg, Switzerland, and Panama; children's cotton hosiery, Canada, Costa Rica, Philippines, Venezuela, and Peru.

What's In the Blend? The labeling by percentage of blended fabrics containing man-made fibers was called for in a recent statement by M. K. Ryan, Jr., manager of fabric development for the Textile Fibers Department of E. I. du Pont de Nemours & Co. According to Mr. Ryan, the composition of these fabrics should be "unmasked," since "the consumer has a right to know what is in the garment he bought, and what it will do for him."

ACMA Now Officially Incorporated. The Alabama Cotton Manufacturers Association has completed incorporation procedures, and is now a legal entity. The Association recently purchased a small office building at 125 South McDonough St., Montgomery, Ala., where it now maintains its offices.

Powder Bag Developed at N. C. State. Declassification of security information has permitted the School of Textiles, North Carolina State College, to release details of a new-type powder bag developed by the School for the Army Ordnance Corps. The bag is for use with the 105 mm mortar and will replace the sheet powder increments normally used with mortar shells. The fabric finally developed is a chemically treated coated cotton, which was required to meet the following specifications: strong, closely woven or knitted, waterproof, completely combustible, constructed of materials expected to be in good supply during an emergency, and designed to fit easily into a powder-loading machine. The bag is now undergoing evaluation by the Ordnance Corps.

Production of Woolen and Worsted Goods Down. Woolen and worsted fabric production during the second quarter of 1954 was 69.4 million finished linear yards, 11 per cent below the first quarter and 27 per cent below figures for the comparable period of 1953. Output of nonapparel fabrics was 23 per cent below the previous quarter, but production of men's and boys' clothing fabrics increased 13 per cent and women's and children's clothing fabrics increased 19 per cent.

Short Course in Statistical Techniques at N. C. State. The Institute of Statistics at North Carolina State College is sponsoring a nine-day intensive training program in

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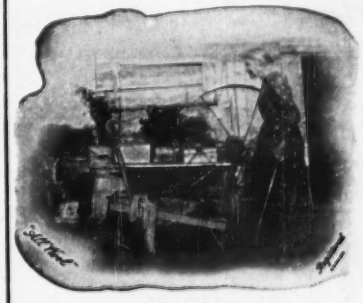

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statistical methods for research workers in industry, January 22 through January 30 (including Sundays). The course is intended to make available the new and powerful statistical techniques of data analysis and experimental design. Guest lecturers include W. J. Youden, National Bureau of Standards; C. A. Bennett, General Electric Co.; and Cuthbert Daniel, statistical consultant. Enrollment is limited to fifty, and registration fee is $100. For further information write to the Institute, at Box 5457, Raleigh, N. C.

Synthetic Fabrics Production. Production of silk and synthetic broad woven fabrics for the second quarter of 1954 was 526 million linear yards, down 5 per cent from the first quarter of this year and 17 per cent below the figure chalked up during the second quarter of 1953. Largest drops from last year's production were registered by combination filament and spun rayon and/or acetate fabrics, down 33 per cent; and by 100 per cent filament rayon and/or acetate fabrics, down 30 per cent. Large gains, percentage-wise, were scored by silk and synthetic fabrics other than rayon, acetate, and nylon; and by nylon woven goods.

How to Keep Sheep Comfortable. Several New Mexico sheep raisers are spraying their sheep with plastic and aluminum paint, according to an article in the September issue of *Farm Journal*. The purpose is to keep the sheep cool in summer, warm in winter, and so conserve food energy. If sprayed on after shearing, the paint keeps out dirt and reduces shrinkage from grease to clean basis. The paint solution scours easily at the mill [according to *Farm Journal*].

Asbestos Research at PTI. The Asbestos Textile Institute has announced the establishment of general headquarters and a research fellowship on the campus of the Philadelphia Textile Institute. The ATI formerly had its headquarters at Rutgers University.

Swim-Suit. The latest Paris swim-suit creation is one with puffed sleeves, said to protect the shoulders against the sun.

English Cotton Mill Employees Get Pay Hike. The Industrial Disputes Tribunal has awarded a 6 per cent wage increase to employees in British cotton spinning and weaving mills. Unions had originally demanded a 10 per cent increase, while employers contended that no increase was justified.

Things Are Looking Up. "Management [of Courtaulds (Alabama), Inc.] has now been successful in achieving a substantial level of sales; the factory in Mobile is

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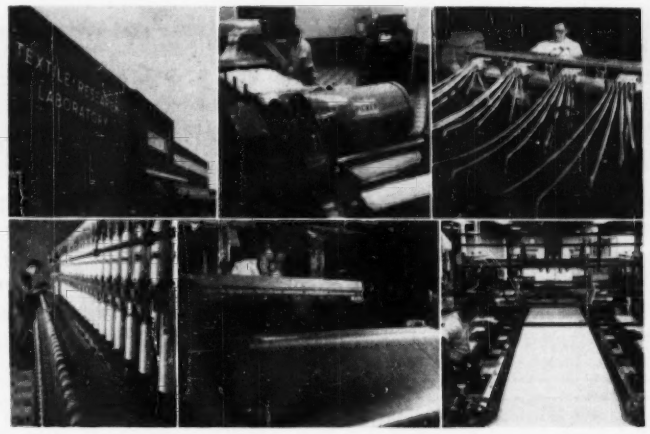


Du Pont's New Textile Research Lab

Du Pont's new 5-million-dollar textile research laboratory at Chestnut Run, Del., is able to perform almost every step in the production of textiles, providing a technical base for improvement and diversification in the company's man-made fibers. Laboratory personnel numbers over 300, of whom 100 are technical experts. In addition to textile processing equipment, the facilities include 17 physical and chemical laboratory areas for studying properties and applications of the fibers or combination of fibers.

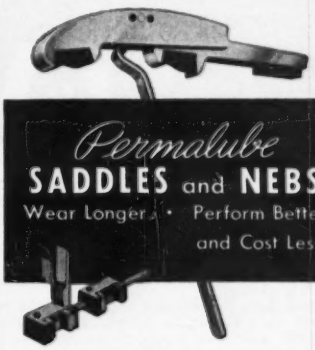
Complete small-scale equipment also permits processing quantities ranging from less than a pound up to several hundred pounds, from staple and yarn to the finished dyed fabric.

The new laboratory will translate the results of its research to mills and ultimate consumers.

now in full operation and the company is beginning to earn profits." —Sir John Hanbury - Williams, Courtaulds, Inc. * * * During the month of June, the hosiery industry saw the most noteworthy increase that has yet occurred in employment in the High Point, N. C., area.—North Carolina Employment Security Commission * * * "Increase in textiles of 7½ to 10 per cent in 1955 over 1954."—Advertising manager of a major supplier * * * "The optimism . . . of the cotton sale yarn market . . . is supported by good, solid economic facts"—Russell C. Osborne, veteran yarn agent * * * "Our business in the last six weeks [before the Greenville Show] was equal to the previous six months."—Textile mill supplier.

Quota and Allotment for 1955 Extra Long Staple Cotton. Secretary of Agriculture Benson has proclaimed a national marketing quota of 30,000 bales (500 pounds gross weight) and allotment of 46,154 acres for the 1955 crop of extra long staple cotton, composed principally of American Egyptian, Sea Island, and Sealand. The quota set is the minimum prescribed by law, because of prospective large supplies. Growers' referendum, in which two-thirds of those voting must approve the quotas before they are effective, will be held December 14.

West German Textile Industry Recovers. The West German textile industry now produces one and a half times as much as it did in 1936, and is the country's largest industry. Output in 1953 amounted to the equivalent of 3 billion dollars, and the industry employed more than 600,000 persons. Exports in 1953 amounted to the equivalent of $280 million, up 12.4 per cent over figures for the previous year. Imports during the same year were valued at $687 million. West Germany is now the world's



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Franklin Package Yarn Dye Plant—500 lb. Franklin Dyer, 2-200 lb. Franklin Dyers, 1-300 lb. Franklin Dyer, 1-100 lb. Franklin Dyer, 3-sample Franklin Dyers, 1-Hurricane Dryer, 1-60 GF 82 spindle Franklin Pkg. Winder, 1-Foster Model 102-100 spindle Cone Winder, 48" Tolhurst Extractor.

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Dyer and finisher, first class, needed by South American Textile Mill. Must have abundant experience with all types of synthetics, woven and tricot goods. Small but up-to-date dyehouse complete with electric heat setting tenter frame and resin finishing equipment on premises. Give complete resume of past employment, and experience and salary desired in first letter. Reply to Box 677, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga.

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POSITION AS OVERSEER OR SECONDHAND COTTON CARDING, SPINNING, WINDING OR TWISTING. EXPERIENCE ON AMERICAN SYSTEM WORSTEDS, ORLON, DACRON AND BLENDS ALSO. Reply to Box 678, TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 5, Ga.

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largest importer of wool yarns, and the fourth largest exporter.

Safety Films Available. Two new safety films are available from the National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill. Titled "Take Time to Live" and "If You Took Your Family to Work," the films run 12 minutes each, and are available in 16mm sound movies and 35mm sound slidefilms.

Outlook Bright for Wool. World wool consumption will reach an estimated 2,575 million pounds, clean basis, in 1954-55, the Wool Bureau reports. World consumption in 1953 was 2,607 million pounds, second highest in the post-war period. Although continuing high, 1954 consumption is expected to be slightly below the 1953 level. Brightest spots on the U. S. scene are the continuing improvement in retail apparel sales and the reduction of retailers' inventories. Dollar retail sales of men's and women's clothing have recovered to 95 per cent and 96 per cent, respectively, of their pre-recession peak rates. Production of all items of women's outerwear, except suits, during the first six months of 1954 exceeded that of the corresponding 1953 volume and suggests that women's clothing retailers have been acting on the improvement in consumer demand.

Cotton Bale Weights More Uniform. The National Cotton Council reports a decrease last year of 4 per cent in the number of cotton bales weighing under 450 pounds, and only a slight increase in those weighing over 600 pounds. Penalties for off-weight bales range from $1 to $7.50 each.

An Executive Views the News in Textiles

(Continued from page 83)

ferent set of records, you have to endure hundreds of yards of red tape, and you have to have an FEPC clause crammed down your throat."

If you are able to swallow all of this, then you find that after you have delivered some thousands of yards of goods that your laboratory tests do not agree with those of the government and that the goods are being rejected. If you do not suffer this horrible fate, then after the delivery of the order and the close of your fiscal year a horde of government statisticians and accountants descends upon you and tells you that you have made too much profit. Unless the country goes to war, I have taken my last government contract!"

So there you have the story. Certainly a great deal can be done to improve this situation and we hope that somebody will do something about it.

How Hathaway Dyes 5-lb. Cheeses

(Continued from page 115)

ages run the full range of lights, mediums, and darks taken as they come through on dye orders. To date not all of the colors in the Hathaway line have been tried. All dyes used are vats and naphthols, fast to bleaching and washing. Also dyed successfully has been one of the soluble pigments, Alcian Blue 8 GN, a new brilliant class.

In all cases, comparison of the 5-pound with the 2½-pound packages with which it was dyed showed an excellent match with good uniformity within the cheese.

Future. Although the number of warp lengths that Hathaway makes in the styled yarn dyed type of goods that would be long enough to take advantage of the big package is limited, application of the method in long-run-per-warp-color mills such as those making denim is an interesting prospect.

Significant cost savings can be realized by the 50 per cent reduction in warper creeling possible through the dyeing of 5-pound cheeses.

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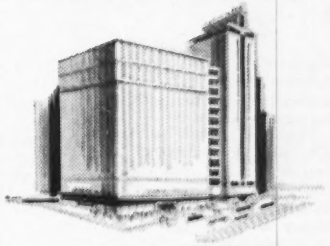

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MILL B	20,192	36's	57,016.40	14,712.27	3.9
MILL C	8,160	50's	20,070.24	7,492.72	2.8
MILL D	10,032	12's	26,233.68	9,407.48	2.8

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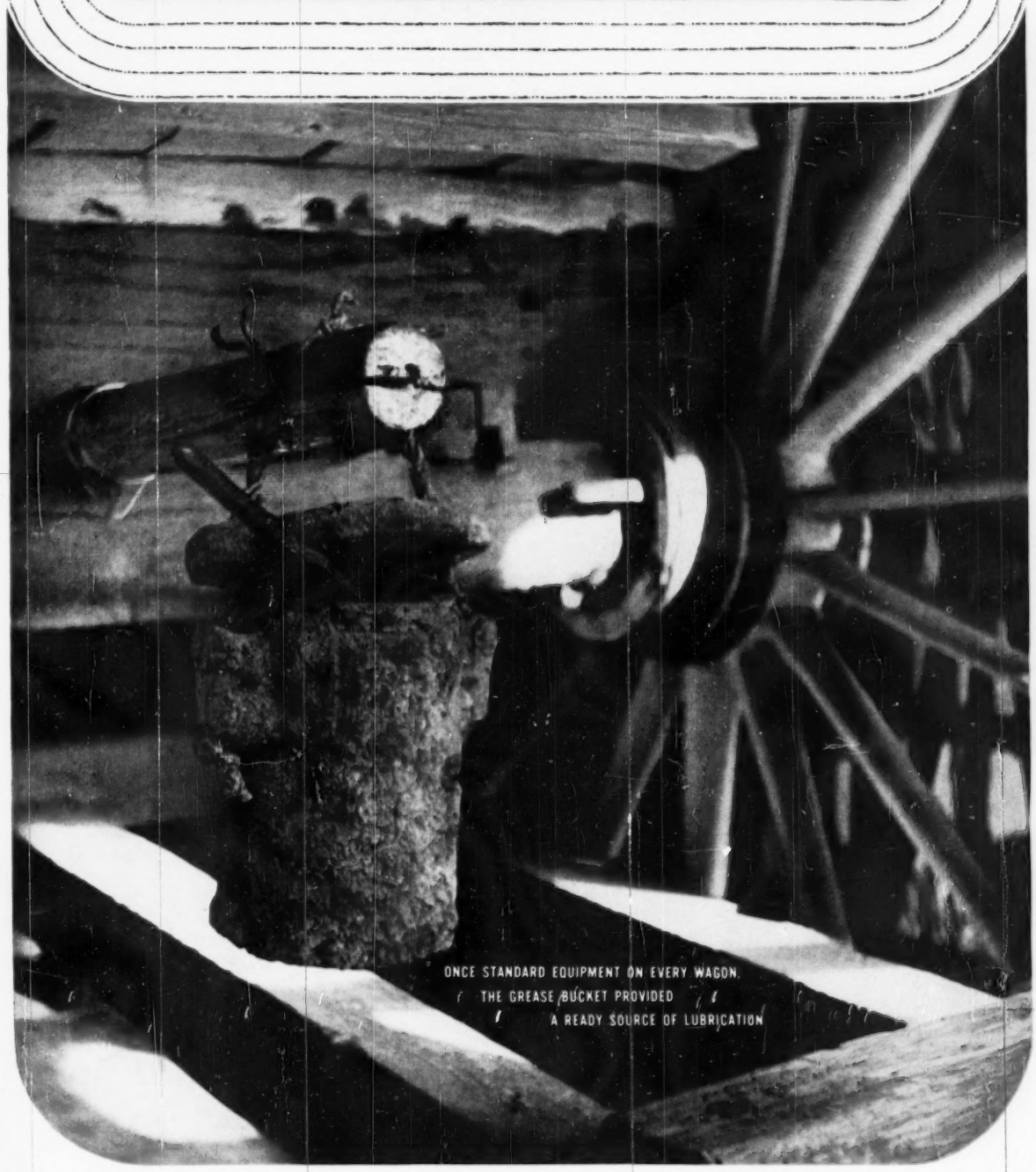

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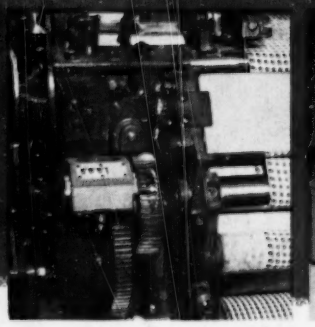

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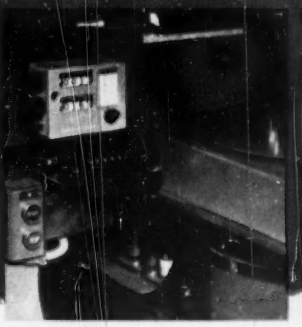

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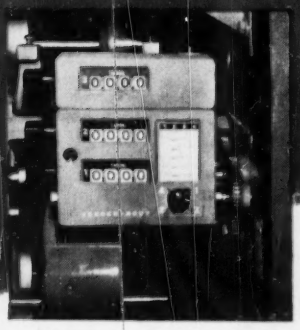

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